

**LEGAL PROTECTION OF PATENTS IN CHINA
AND
PATENT FRAMEWORK IN CHINESE ENTERPRISES**



University of Oslo
Faculty of Law

Candidate number: 8006

Supervisor: Yue Liu

Deadline for submission: 12/1/2010

Number of words: 13,430 (max. 18.000)

24.11.2010

Content

<u>1</u>	<u>INTRODUCTION</u>	<u>1</u>
1.1	Context and Scope of Study	1
1.1.1	Background	1
1.1.2	Legal approaches and Limitations	3
1.2	Resources and Methodology	4
1.3	Structure of the thesis	4
<u>2</u>	<u>CHINESE LEGAL PATENT PROTECTION SYSTEM AND THE COMPARISON WITH OTHER COUNTRIES</u>	<u>6</u>
2.1	Overview of legal patent protection system in China and other countries	6
2.1.1	Overview of legal patent protection system in China	6
2.1.2	Overview of the Legal patent protection system in Europe	8
2.1.3	Overview of the legal patent protection system in the USA	9
2.2	Comparison of patentability in Chinese Patent Law with Europe and the USA	10
2.3	Comparison of legal system of service inventions between China and European countries	12
2.4	Comparison of patent application and the examination procedures	16
2.5	Comparison of patent rights, obligations and terms	19
2.6	Comparison of patent remedies	20
2.6.1	Comparison of civil remedy	20
2.6.2	Comparison of administrative remedy	25
2.6.3	Comparison of criminal remedy	26
<u>3</u>	<u>PATENT FRAMEWORK IN CHINESE COMPANIES</u>	<u>28</u>

3.1	The quantity and quality of patents	28
3.2	The recognition of the importance of patents	28
3.3	Patent administration departments and patent analysis inside enterprises	30
3.4	The adoption of International rules and regulations	31
3.5	Patent authorization and patent cross license	32
3.6	Relationship between Chinese enterprises and patent agencies	32
3.7	Numerous patent application from foreign enterprises restrict the development of Chinese enterprises	33
3.8	A model for Chinese enterprises — the technology framework of Huawei Technologies	33
<u>4</u>	<u>CASE STUDIES</u>	<u>35</u>
4.1	6C v. 100 Chinese DVD manufacturers	35
4.2	Gertrude Neumark Rothschild v. 34 LED enterprises (“337 events”)	39
<u>5</u>	<u>CONCLUSION</u>	<u>42</u>
5.1	Recommendations to Chinese governments in the aspect of patent legislation	42
5.1.1	Broaden the scope of the patentability in the legislation of China	42
5.1.2	Enrich the provisions protecting service inventions	42
5.1.3	Strengthen the patent infringement remedy	43
5.2	Recommendations for Chinese enterprises	44
5.2.1	Establish intellectual property department, to improve patent consciousness inside enterprises and set up strategic patent plan.	44
5.2.2	Build and improve patent database inside enterprises	44
5.2.3	International patent applications	45
5.2.4	Establish rigorous patent net	45

5.2.5	Obtain patent authorization and patent cross license	46
5.2.6	Establish industrial associations	46

REFERENCES **47**

ANNEX: CHINESE PATENT LAW **A**

1 Introduction

1.1 Context and Scope of Study

1.1.1 Background

After 14 years' negotiation, China was enrolled in the World Trade Organization (WTO) in December 11, 2001. The enrolment has brought to us multiple impacts in society, economy, technology, culture and intellectual property as well. "IP law is more in demand now than it has ever been. Businesses are increasingly aware of the importance of intellectual property to their survival, and as a consequence increased pressure has been brought to bear on IP law to provide adequate protection for new and emerging technologies."¹ TRIPS made the basic principle of intellectual property protection. As a member of WTO, China should amend its relative rules and regulations in accordance with which is fixed in TRIPS.

In March 1980, State Intellectual Property Office of P.R.C was established. In 1985, China's Patent Law was first established; it is a symbol of the establishment of China's legal patent protection system.

As data shows that until 2005, the amount of patent application in China is 2,761,196. Among these applications, the proportion of national application is 82.8%, applications from overseas takes 18.2%. Authorized patents amount to 1,469,505, in which national patents occupy 86.2% of all.²

¹ Hector MacQueen, Charlotte Waelde and Graeme Laurie, (2007) p.18

² Data collected from Analysis of American 337 LED Lawsuit Enterprise Emergency (2008).

Since 1985, Patent Law was modified three times— in 1992, 2000 and 2009 respectively. The main purpose of the first amendment is to extend the patent protection to cover pharmaceutical products, food, beverages, flavourings, and substances obtained by means of chemical processes, and to extend the duration of protection of invention, utility model and designs by 5 years, to 20, 10 and 10 respectively. Before 2000, China became a member of World Trade Organization (WTO) as well as TRIPS. The second amendment in 2000 mainly aimed to strengthen the economic environment of socialism market and enhance the protection of patent protection, which makes China's patent law more in compliance with Trade Relate Aspects of Intellectual Property Rights (TRIPS). The last amendment in 2009 attempted to make China's new patent law more in compliance with international rules and regulations. The amendment affirmed that patents invented in China can make international application without applying for protection in China. It also strengthened the punishment of patent infringement.

Although the legislation of Chinese patent law is made in compliance with TRIPS, the status quo of patent protection still has a long way to go. A large percent of China's enterprises are still weak in the ability of research. The shortage of core technologies make companies facing risks of being taken legal actions for using other companies' technologies without authorizing procedure. On the other side, China's still lacking public awareness of patent protection. For instance, in China's 15 years' "863 program" ("State High-Tech Development Plan"), among the 6,908 projects and 47,000 thesis, only 200 projects applied for patent protection. As developed countries consider patent as a sword of technology monopolization, China still needs to adjust its patent protection system to be more complete.

With respect of dispute resolution, patent is an important part of intellectual property, whereas it has characteristics which intellectual property doesn't have, dispute resolution of patent infringement is more complicate. As acknowledged, patent infringement is mushrooming with the development of economy. As a result, it is especially important to improve the system of patent remedy.

1.1.2 Legal approaches and Limitations

This thesis aims to analyse Chinese patent system and compare it with typical western legal patent system in order to find the inadequacies of the current legislations. Following on from this, I will go on to explore the patent system of Chinese enterprises, which aims to find out the legal challenges of the current legislation in practise. Case studies are adopted in order to give a concrete picture of the existing problems.

The questions to be discussed are listed as follows:

1. The status quo of Chinese legal patent protection system; the legal framework of legal patent protection system in China; the combination of Chinese patent system and the Patent Cooperation Treaty.
2. Comparison of Chinese legal patent protection system with European and American patent protection systems, and the differences between them. The limitations of Chinese legal patent system and the resolutions.
3. The framework of the patent system in Chinese enterprises. Patent strategic planning inside the enterprises. The limitations of patent protection in Chinese high-tech enterprises and recommendations to the patent system therein.

In the study of the above questions, the concept of patent protection is wide so that it is difficult to analysis the legal patent system precisely.

Europe is consisted by a variety of countries, the varieties of national legislations and judgments make the research more complicated. Take the judgments for illustration, courts of Germany and the UK can have contrary judgments on one issue. In this thesis, I will not choose all the legislations in the study; instead I will use some typical provisions in different legislations to do the comparison.

In Chinese legal system, case law results cannot be taken into consideration during judgments. Some of the cases I'm about to study into has not been carried out in People's courts, thus there's little judicial comments on them. The comments that I can find might be partially described. In order to get a comprehensive view of the cases, I may search for more materials relating to them.

1.2 Resources and Methodology

The research about international patent system mainly covers Patent Cooperation Treaty and the TRIPS agreement. In the European dimension, European Patent Convention 2000, EC Directive 2004/48/EC (Directive on the enforcement of intellectual property rights) is covered. In the Chinese dimension, Patent Law of the People's Republic of China is cited.

Judicial judgments are important part of the research. This thesis mainly refers to Chinese intellectual property cases, especially patents. I start with a preliminary analysis of facts and questions; then use sources from rules and regulations, relevant books, articles and websites; upon these works, I evaluate the problems again and find out the solutions.

In order to obtain a detailed view of Chinese legal patent protection system, I'll make comparative studies on different aspects between China and some typical western countries, including the US, the UK and EU countries such as France and Germany. In order to be more competitive in the international market, China should draw on the experience of the developed countries. By the comparison study, I will analyse the limitations in Chinese patent legislations, and propose the solutions and recommendations to Chinese legal system and Chinese companies.

1.3 Structure of the thesis

This thesis contains seven chapters. The first chapter is the introduction of context and scope of the study, recourses and methodology used in this thesis will also be introduced. Besides, main research objectives and sub research questions are raised in this chapter.

The second chapter is an overview of legal patent protection system in China, which analysis the current situation of Chinese patent protection, and compares Chinese legal patent protection system with the European countries in several legislative aspects, which include patentability, priority of patent application, the examination procedures, patent rights, obligations and terms, compulsory license, and patent infringement as well as legal remedies.

The third chapter studies patent management framework in Chinese enterprises, and attempt to find out the problems existing in patent system of Chinese enterprises.

The forth chapter studies recent events which affect Chinese industry deeply, and analysis the problems related.

The last chapter concludes the questions discussed in the above parts and makes an overview and prediction of the future of Chinese patent system. After the conclusion, I will try to give solutions and recommendations to Chinese legislative authorities in the scope of patent law legislation. Then I will try to find out useful recommendations for Chinese enterprises against the problems carried out in chapters 4 and 5.

2 Chinese legal patent protection system and the comparison with other countries

2.1 Overview of legal patent protection system in China and other countries

2.1.1 Overview of legal patent protection system in China

Chinese intellectual property law system is consisted by Laws and rules³, provisions of relative laws⁴, international treaties⁵, rules of State Intellectual Property Office⁶ and judicial interpretation by Supreme People's Court⁷.

On December 27, 2008, Chinese Patent Law made its third amendment, which aims to protect the rights for patentees and balance the profits in the society, and to promote the adoption of patent system in China. In the 2008 edition of Chinese Patent Law, the purpose of legislation highlights the principle of promoting innovation ability. Purpose of legislation obtains important position in Chinese Patent Law; the modification of purpose of legislation reflexes the change of function and orientation of the patent law. Article 1 of Chinese Patent Law 2008 edition states that Chinese Patent Law is established with the purpose of protecting lawful rights and interests of patentees, promoting the application of invention-creations, enhancing innovation ability, and promoting the growth of technologies and the development of economic society. Compared with 2000 edition, 2008 edition emphasises function of patent law in promoting the application of invention-

³ Patent Law, Trademark Law, Copyright Law, Law Against Competition by Inappropriate Means, Regulations on the Protection of New Varieties of Plants, PRC Customs Protection of Intellectual Property, Protection of Integrated Circuit Layout Designs Regulations Implementing Rules, Regulations for the Protection of Computer Software, Regulations on Patent Commissioning, etc.

⁴ General provisions of the Civil Law, Code of Civil Law, Contract Law, Law of Executive Accusation, Administrative Review Law, State Compensation Law

⁵ Paris Convention, Agreement on Trade-Related Aspects of Intellectual Property Rights(TRIPS), Patent Cooperation Treaty

⁶ Censor Direction, Regulations on patent sign and patent number label, etc.

⁷ Several Provisions of the Supreme People's Court on Issues Concerning Applicable Laws to the Trial of Patent Controversies

creations as well as the enhancement of innovation ability. The modification indicates that China has adopted the principles of “enhance individual innovation ability” and “build innovative state” in its national policy and strategic plan. However, there’s still a wide gap between China and the developed countries in the aspect of technological independent innovation. The amendment also made changes in the novelty standard of inventions, utility models and designs in the aspect of patentability. The new standard adopts the principle of “absolutely novelty”, which abolishes the territorial restriction of technologies and designs. The adoption of “absolutely novelty” indicates that the standard of patentable items has been enhanced.

Moreover, in the 2008 edition of Chinese Patent Law, the scope of patentable items has been broadened. Compared to the 2000 edition, provisions of 2008 edition endow design patentees with the right of “offer to sale”, which was not ruled in 2000 edition. This amendment balanced patent rights among invention patentees, utility model patentees and design patentees.

2008 edition of Chinese Patent Law also strengthens the administrative remedies. China has been implementing administrative remedy in protecting patent rights since China issued Patent Law in 1984. It is in accordance with China’s situation to adopt administrative measures, which play an important role in restraining patent infringement, protecting lawful rights of patentees and maintaining social economical relationship. In the amendment in 2008, the legislation endows patent administrative bodies with the right of treating behaviours of pass of patents. As a result, the protection of patent rights is strengthened.

In the aspect of amount of indemnity, the amendment in 2008 specified that, the amount of indemnity can only be decided by the profits obtained by the infringer when the loss of patentees by the infringement is hard to define.⁸ This amendment is more in accordance with the definition of compensation for damages in Civil Law. Besides, provisions are

⁸ Patent Law of People’s Republic of China, art 60.

made in accordance with Copyright Law and Trademark Law and in favour of patentees in obtaining essential compensation from infringers. Moreover, provisional measures are also specified in the third amendment of Chinese Patent Law in 2008.

2.1.2 Overview of the Legal patent protection system in Europe

After negotiations in 1960s, European Patent Convention (EPC, 1973, as amended) was drafted. The European Patent Office, which grants European patents, was established in 1978, when the European Patent Convention came into force.⁹

There are four pathways to obtain patent registration, via national procedure, via European procedure (EPO), national procedure combined with international procedure (PCT), and European patent procedure combined with international procedure. The same outcome of these procedures is that “patents are granted with territorial effect only in the countries for which protection was sought, and this can be a very costly process if multiple filing is contemplated”¹⁰.

In 2000, the provisions of the European Patent Convention were revised by the signatory states to modernize the Convention for 21st century and make it more in compliance with the integrity of the economy of Europe. The EPC 2000 simplified the patent examination procedure. Applicants can obtain patent protection by the states they choose through one examination procedure.

However, there exist several problems in the European patent system¹¹: “Legal actions always cost a lot; No unified practice and patent laws; Cases are processed at different speeds; Damages and fees can differ significantly; Competence of judges can be

⁹ Hector MacQueen, Charlotte Waelde and Graeme Laurie (2007) p 367.

¹⁰ Hector MacQueen, Charlotte Waelde and Graeme Laurie (2007) p 370.

¹¹ EPO, 'The European Patent Litigation Agreement (ELPA)', Why is the current situation so complicated?

problematic when it comes to patent rights”. As there is no centralized litigation system for European patents, the revision of European Patent Convention is useless to handle the existing problems of patent litigation system. As a result, the European Patent Litigation Agreement (ELPA) was drafted by the EPO’s Working Party on Litigation (WPL), to set up a European Patent Court.

Member states of the EU have their freedom in the legislation. As a result, there’re differences among the legislations of member states such as Germany and France. The UK has a developed system of patent protection, and has its own characteristics which differ from the EU countries. In the following comparison studies, China can draw on the experience of these countries.

2.1.3 Overview of the legal patent protection system in the USA

The U.S. is one of the countries who firstly establish patent system. In 1790, the Congress established the first patent law of the US In 1802 USPTO (US Patent and Trademark Office) was established, and in 1836 foreigners were allowed to apply for US patents. After several amendments, the current patent act was issued in 1952, and was ruled by 35 U.S. Code and the first section of 37 C.F.R.

Patent Act (35 U.S. Code) was established “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”¹². There are three types of patents in the U.S. Law: utility patent, design patent and plant patent. The most common type of patent is a utility patent, whose requirements are set forth in Section 101 of the U.S. Patent Act that,

¹² Constitution of the United States of America, Section 8

inventions which can be patentable is statutory, new, useful and non-obvious.¹³ To obtain patent protection under the U.S. Law, the applicant must submit an application to the USPTO (U.S. Patent and Trademark Office). After the examination procedure, patents are granted to the inventions which satisfy the requirements. In order to obtain patent protection in the U.S, the inventor must have his patent application filed in the USPTO within one year after his invention have been publically used or carried out to sell in the U.S. and other countries in the world. A patent right in the U.S. “excludes others from making, using, selling, offering for sale, exporting components to be assembled into an infringing device outside the U.S., importing the product of a patented process practiced outside the U.S., inducing others to infringe, offering a product specially adapted for practice of the patent, and a few other very carefully defined categories.”¹⁴

2.2 Comparison of patentability in Chinese Patent Law with Europe and the USA

In Chinese Patent Law, ‘invent-creations’ include inventions, utility models and designs¹⁵. There’s a prior rule that Inventions which is contrary to the state law or social morality or detrimental to public interest cannot be granted invention-creation¹⁶.

Invention-creations that can be protected under Chinese Patent Law must be novel, inventive, and practical applicable.¹⁷ The word ‘novelty’ means that the invention or utility model does not belong to currently existed technology; it has not been applied by any other entities or individuals for publication before this application. ‘Inventiveness’ means the invention or utility model have substantial features or distinct progresses. The word

¹³ 35 U.S. Code, Sect. 101. Inventions patentable: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

¹⁴ United States patent law from Wikipedia.

¹⁵ Patent Law of People’s Republic of China, art 2.

¹⁶ Patent Law of People’s Republic of China, art 5.

¹⁷ Patent Law of People’s Republic of China art 22.

‘practicability’ refers to the fabrication of the invention or utility model, and that can bring active impact.

According to Art.25 of Chinese Patent Law, those cannot be granted patent protection are “scientific discoveries, rules and methods for mental activities, methods for the diagnosis or for the treatment of diseases, animal and plant varieties, and substances obtained by means of nuclear transformation”. Processes used in producing products referred to in animal and plant varieties, can be granted with patent right.

Patentability is ruled in European Patent Convention that “European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.”¹⁸ The exceptions of inventions are listed in article 52 of the European Patent Convention.¹⁹

Compared with the provisions of Chinese Patent Law in section 2.1.1 there’re some differences. Animal and plant varieties can apply for patent application in Europe, but that is not recognized in Chinese Patent Law. Moreover, nuclear transformation which cannot apply for patent in China is not listed in the exception list in EPC provisions. It should be noted that only inventions can be patented, discoveries are exempted.

The patenting system is developing with the development of technology, the scope of patentability to some extent reflect the countries’ recognition of new technologies. Facing the rapid development of technology, it is a necessary for Chinese government to consider whether to stay conservative on the application of invention-creations, or to broaden the categories of patentable inventions.

¹⁸ EPC art.52(1)

¹⁹ EPC art.52(2) “(a) Discoveries, scientific theories and mathematical methods; (b) Aesthetic creations; (c) Schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers; (d) Presentations of information.”

There's another disadvantage in Chinese patent system. Inventions made in China should apply for patent in China before it be carried out abroad. Some inventions like new animal and plant varieties and business methods are excluded in Chinese patent system, inventions under these categories cannot obtain patent right both at home and abroad. In this way, the enthusiasm of inventors of this field might be restricted.

By comparing the litigations on patentability of different countries, we can find out that the international scope of patentable objectives is broadening. Technologies bring us the opportunity to understand the existing patent law and the intentions of legislators inside the patent system, thus, we can check the rationality of the patent system. With the development of technology, the definition of objectives is widened. It is not enough to stick to traditional method of defining patents. The legislation report of American Congress stated that, the aim of making plant patent act is to endow agriculture the same opportunity with industry that allows agriculture to obtain the benefit of patent system.²⁰ When more inventions can obtain patent rights, more invention-creations are stimulated therefrom. As a result, it is necessary to broaden the scope of the patentability in the legislation of China.

Moreover, some inventions like new animal and plant varieties and business methods are excluded in Chinese patent system, inventions under these categories cannot obtain patent right both at home and abroad. To get rid of this, broaden the scope of invention-creations which can be awarded patent right is necessary.

2.3 Comparison of legal system of service inventions between China and European countries

Article 39 of the Patents Act 1977 (as amended) of the United Kingdom defined the right of invention for employee that, "(1) an invention made by an employee shall, as between him and his employer, be taken to belong to his employer for the purposes of this Act and

²⁰ Senate Report, No.315,71 Congress, 2d Session (1930).

all other purposes if – [...]. (2) Any other invention made by an employee shall, as between him and his employer, be taken for those purposes to belong to the employee.”²¹

French have similar rules as UK concerning inventions by employees, the legislations adopted the principle of “employer first”. Article L611-6 of French Intellectual Property Code ruled that inventor has the right to obtain industrial property title. This right is to be described more precisely in Article L611-7 that “Inventions made by a salaried person in the execution of a work contract comprising an inventive mission corresponding to his effective functions or of studies and research which have been explicitly entrusted to him, shall belong to the employer”, besides these, all other inventions shall belong to the salaried person.²²

Germany is different from the above two countries. Law on Employee Inventions was made in 1957 to clarify the jurisdiction of inventions by employees, and was revised in 1994. Some western countries consider the procedure of the Employee Invention Law to be too complicated, despite this; the law had a favourable social impact. German Employee Invention Law²³ separates employee inventions into tied inventions (service inventions) and free inventions. Tied inventions are made during the term of employment and are “(i) Either resulted from the employee’s tasks in the private enterprise or in the public authority, (ii) or are essentially based upon the experience or activities of the enterprise or public authority”²⁴. Other inventions shall be free inventions which belong to the employees.²⁵

²¹ Patents Act 1977(as amended) of the United Kingdom, Art 39

²² French Intellectual Property Code, Article L611-7, 2°

²³ Germany Law on Employee Inventions (of July 25, 1957, as last amended by the Law of June 24, 1994)

²⁴ Germany Law on Employee Inventions (of July 25, 1957, as last amended by the Law of June 24, 1994), art 4.

²⁵ Germany Law on Employee Inventions (of July 25, 1957, as last amended by the Law of June 24, 1994), art 8:

”(1) A service invention shall become free:

(i) Where the employer releases it by a written statement;

(ii) Where the employer makes a limited claim to it, subject to the employer’s right to use the invention in accordance with Section 7(2);

(iii) Where the employer has not made a claim to it within four months upon receiving a proper invention report (Section 5(2) and (3)) or, for cases falling under Section 7(2), within two months of the request filed by his employee.”

The principle Germany adopts is to balance the interest between employers and employees. The due income for employers by the invention is called “compensation” instead of “reward”, which means, legislation is not set up to recognize the value of the labour value, but is made to guarantee the employers’ right of gaining profit.²⁶

It can be seen from the above statements that in European countries, inventors and assignees are distinguished strictly. The original rights are issued to inventors, which emphasises that invention is a product of the inventor’s work. In different jurisdictions, there are two different principles: One is ‘employer first’ applied in the UK and France. According to this principle, employee invention patent belongs to the employer, while the inventor has the right to gain compensations. The other is “employee first” applied in Germany. According to this principle, invention is an intellectual product, the original right of employee patent belongs to the inventor, and employer only has the right to enforce patents.

No matter which principle these countries choose, they all take certain measures to balance the interest between employees and employers. Countries which use the principle of “employer first” try to establish a system of reward to encourage employees to obtain considerable reward from employers by their inventions. The UK legislation fixes the amount of compensation, what should be taken into account includes the nature of the

²⁶ Germany Law on Employee Inventions (of July 25, 1957, as last amended by the Law of June 24, 1994):

”9.– (1) The employee shall have a right to reasonable compensation as against his employer, as soon as the employer has made an unlimited claim to a service invention. (2) In assessing compensation, due consideration shall in particular be given to the commercial applicability of the service invention, the duties and position of the employee in the enterprise, and the enterprise’s contribution to the invention.

10.– (1) The employee shall have a right to reasonable compensation as against his employer, as soon as the employer has made a limited claim to a service invention and has used it. Section 9(2) shall apply *mutatis mutandis*. (2) After having stated a claim to a service invention, an employer may not, in dealing with his employee, contest the invention’s eligibility, at the time of the claim, for industrial property protection unless a decision to this effect has been rendered by the Patent Office or a court of law. The employee’s right to such compensation as becomes payable before the decision has force of law shall not be affected thereby.”

employee's duties, the effort and skill which the employee has devoted to making the invention, the effort and skill which any other person has devoted to making the invention jointly with the employee concerned and the contribution made by the employer to the making, developing and working of the invention.²⁷

China adopts the principle of “employer first”, this principle in the legislation is even stricter than other countries. As studied earlier in this thesis, the concept of inventions at work is so wide that the freedom of employee invention is restricted accordingly. In spite of this, the legal remedy system of Chinese Patent Law is weaker than the European countries that choose the same principle as China, for example, the UK and France.

In Chinese Patent Law, service invention-creation, refers to an invention-creation made by a person in execution of the tasks of the entity to which he belongs, or made by him by mainly using the material and technical means of the entity is a service invention²⁸. It is also provided in Chinese Patent Law that “for a service invention-creation, the right to apply for a patent belongs to the entity. After the application is approved, the entity shall be the patentee. For a non-service invention-creation, the right to apply for a patent belongs to the inventor or creator. After the application is approved, the inventor or creator shall be the patentee.”²⁹

For an invention-creation, made by a person by using the material and technical means of the entity to which he belongs, and where the entity and the inventor or creator has entered into an agreement under which there is provision on who has right to apply for a patent and to whom the patent right belongs, the provisions of the agreement shall prevail.³⁰

²⁷ UK Patents Act (1977), article 41(4).

²⁸ Patent Law of People's Republic of China art 6.

²⁹ Ibid.

³⁰ Ibid.

According to Chinese Patent Law, the interest of employers and employees are not well balanced. What employees gain is always less than the effort they have paid out? In Rules for the Implementation of PRC Patent Law, which is revised in 2010, the government set up a system of legal remedy of employee invention, but there are still limitations. As inventions carried out in different technique field share one method of calculation of rewards, it is sometimes unfair to the employees; in many entities and enterprises, compensations are divided averagely, employees who contribute most cannot gain what they deserve. There's a loophole in the legislation on how can service inventors preserve the rights and interests of themselves.

Through the comparison of employee invention, we can find out that, even in the countries like the UK and France, inventors' benefit is cared more by the legislators than in China. This indicates that they have realized the importance to encourage the inventors, because the employers need the inventors to invent. China is a country which adopts the principle of "human centred", which emphasizes that human is the basis of a country. As a result it is necessary to strengthen the right of employees.

2.4 Comparison of patent application and the examination procedures

US Patent Law adopt the doctrine of "first-to-invent"³¹. This doctrine is based on the principle of human rights protection. In order to encourage and protect the inventors who firstly carry out invents, it is reasonable to grant the inventors who firstly invent with patent rights.

³¹ American Patents Act, art 102:

"(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other".

However, the “first-to-invent” doctrine has its disadvantages: inventors would not apply for patent protection immediately, thus the term of protection is extended. Because of the reservation, researchers cannot obtain enlightenment from existing technologies; in this case, the development of technologies would be restrained. Moreover, it is usually hard to ensure the time of invention, the US established a system to examine interference.

According to Chinese Patent Law, only one patent right can be granted for same invention-creations. Where two or more applicants file applications for patent for the identical invention-creation, the patent right shall be granted to the applicant whose application was filed first.³²

In case there're disputes on priority that cannot be resolved, in order to determine who have the priority to apply, the parties can seek for help from the administrative body or relevant body of the State Council or the People's Court. It is described in Chinese Patent Law that:

Where, within twelve months from the date on which any applicant first filed in a foreign country an application for a patent for invention or utility model, or within six months from the date on which any applicant first filed in a foreign country an application for a patent for the same subject matter, he or it may, in accordance with any agreement concluded between the said foreign country and China, or in accordance with any international treaty to which both countries are party, or on the basis of the principle of mutual recognition of the right of priority, enjoy a right of priority in Chinese Patent Law.³³

The principle of ‘first-to-file’ is that it is not necessary to find out that invents first; as an applicant apply for patent protection right after his invention, the granting procedure is made simple.

³² Patent Law of People's Republic of China, art 9.

³³ Patent Law of People's Republic of China, art 29.

Chinese patent application requires substantial documents, including a request, a description, abstracts and claims (for designs, a request, drawings or photographs of the design are required). The description should clarify the title of the invention or utility model, the name of inventor, name and address of the applicant; it should also contain a sufficient description of the invention or utility model, which allows technician to carry out the technology. Abstract should point out the essentials of the application. Claims should describe the extension that patent is to be protected. For inventions relying on genetic resources, applicants should clarify direct and indirect sources of the genetic resources; if not, reasons should be stated. Images and pictures submitted for designs shall clearly show the design seeking protection. All the documents must be translated into Chinese.

Where any Chinese entity or individual intends to file an application in a foreign country for a patent for its or his domestic invention-creation, it or he shall file first an application for patent with the patent administrative organ under the State Council.³⁴ This provision is made to protect technologies in China.

All the patent applications in China shall go to State Intellectual Property Office where patents will be examined. The examination system is divided into three steps: preliminary examination, publication, and substantive examination. The preliminary examination is to ensure that the application meets the requirements of statutory filing. Applications that passed preliminary examination will be published after 18 months since the application date, unless the applicant requests for an earlier application.³⁵

Applicant can request for substantive examination within three years from the application date, at this stage, prior art referenced by the invention should be submitted. The purpose of substantive examination is to reconfirm the novelty, inventiveness and practical applicability of the application. After the substantive examination, where it is found that there is no cause for rejection of the application, the Patent Office will grant a patent right,

³⁴ Patent Law of People's Republic of China, art 20.

³⁵ Patent Law of People's Republic of China, art 34.

issue the relevant patent certificate, register and announce it.³⁶ Right upon the date of the announcement, the patent for the invention come into force.

It can be concluded that, the principles of “first-to-invent” and “first-to-file” both have their advantages and disadvantages. However, generally the “first-to-file” is superior to the “first-to-invent” principle. The “first to file” principle is in favour of the application of inventions, and the development of technologies; it will simplify the procedure that should be taken by the patent office as well. Hence, most countries in the world adopt the “first-to-file” principle.

2.5 Comparison of patent rights, obligations and terms

Once a patent is granted, no others may, without the authorization of the patentee, make, use, offer to sell, sell or import the patented product; or use the patented process or use, offer to sell, sell or import the product directly obtained by the patented process, for production or business purposes.³⁷ Patent right can be transferred to others, through binding procedures.³⁸

As provided in EPC, the patent term in Europe is 20 years from the date of filing.³⁹ This is the minimum term of patent protection in Europe. For instance, in France, for patents relating to medicine and the method for producing the medicine, patentee can apply for “additional protection certificate”, the term of the certificate is ruled not to exceed 7 years from the expire date of the patent, and not to exceed 17 years since is approved to sell.⁴⁰

³⁶ Patent Law of People’s Republic of China, art 39.

³⁷ Patent Law of People’s Republic of China, art 11.

³⁸ Patent Law of People’s Republic of China, art 10.

³⁹ EPC, art.63.

⁴⁰ French Intellectual Property Code, L.611-2.

In contrast, there is no special provision for some particular patents in China. It is settled in Chinese Patent Law that the term of invention patent is 20 years; the term of utility model and design is 10 years.⁴¹ If the annual fee is not paid according to the provisions, or the patentee declares that he give up the patent in written form, the patent right is ceased before the due date. There's a special extension of the term that the term is extended by 20 years from the filing date for applications filed on or before December 31, 1992, and effective through December 11, 2001. There is no special provision in China. For example, medicine patent will need a long time from the application to the authorisation, afterward, the procedure comes to administrative examination and clinical test, when all these procedures are finished, there is not much time left for the patent term. Hence, extended patent term is necessary to protect the interest of the patentee more effectively.

2.6 Comparison of patent remedies

2.6.1 Comparison of civil remedy

i. Legal regime of compensation

Compensation system is the most basic system for patent civil remedy. The provisions of this system vary in different legislations.

Article 45 of TRIPS agreement settled the minimum standard of compensation for patent infringement:

1. The judicial authorities shall have the authority to order the infringer to pay the right holder damages adequate to compensate for the injury the right holder has suffered because of an infringement of that person's intellectual property right by an infringer who knowingly, or with reasonable grounds to know, engaged in infringing activity.

⁴¹ Patent Law of People's Republic of China, art 42.

2. The judicial authorities shall also have the authority to order the infringer to pay the right holder expenses, which may include appropriate attorney's fees. In appropriate cases, Members may authorize the judicial authorities to order recovery of profits and/or payment of pre-established damages even where the infringer did not knowingly, or with reasonable grounds to know, engage in infringing activity.

In Germany, patentee can obtain compensation for intentional and unintentional patent infringement. Article 139 of the German Patent Act sets forth that:

(2) Any person who undertakes such action intentionally or negligently shall be liable for compensation to the injured party for the damage suffered therefrom. If the infringer is charged with only slight negligence, the Court may fix, in lieu of compensation, and indemnity within the limits of the damage to the injured party and the profit which has accrued to the infringer.

(3) If the subject matter of a patent is a process for obtaining a new product, the same product when produced by any other party shall, in the absence of proof to the contrary, be deemed to have been obtained by the patented process. In the adduction of proof to the contrary, the legitimate interests of the defendant in protecting his manufacturing and business secrets shall be taken into account.

According to the German Patent Act, the plaintiff can obtain compensation according to the estimate of lost profit, profit by infringement or reasonable authorization fee, even when the rights of the plaintiff has not been damaged, e.g. the plaintiff has not begun to exploit the patent. Based on the principle of good faith in German Civil Law, the German Court developed a common principle that the infringer has the obligation to provide basic information of the damage caused to the patentee.⁴²

There's no such provision in Chinese Patent Law, however, "Several Provisions of the Supreme People's Court on Issues Concerning Applicable Laws to the Trial of Patent Controversies" made the rule of the calculation of compensation.

⁴² Zhao Dadi (2007), p.9.

There are three different calculation methods of compensation. First is to indemnify patentee for his economical loss. The reduced volume of sales multiply by the reasonable profit of each patent product produces the damage of patentee by patent infringement. For those patentees whose reduced volume of sales are difficult to confirm, total amount of the sales of infringing products multiply by reasonable profit of each patent product can be deemed as the lost profit of patentees.⁴³ The second method is to take the profit obtained by infringement as the amount of compensation. To be specific, the total amount of the sales of infringing products multiply by reasonable profit of each infringing product produces the benefit that the infringer obtains. The benefit obtained by infringers is commonly calculated by the operating profit, for the infringers who carry out business totally by the infringement, the benefit can be calculated by the selling profit.⁴⁴ The third method is to compensate the exploitation fee, the fee should be reasonable, and cannot exceed three times of the authorization fee. If there's no patent authorization fee or the authorization fee is obviously unreasonable, the People's Court can fix a reasonable amount of compensation, which is commonly between 5,000 Yuan and 300,000 Yuan.⁴⁵

ii. Provisional measures

In order to protect intellectual property, procedural law should be taken into account besides substantive law. In TRIPS agreement, enforcement of intellectual property, especially provisional measures, is to be studied here as an important subject in world intellectual property protection.

Provisional measures can be divided into two types by their purposes: "to prevent an infringement of any intellectual property right from occurring, and in particular to prevent

⁴³ Several Provisions of the Supreme People's Court on Issues Concerning Applicable Laws to the Trial of Patent Controversies, Article 20.

⁴⁴ Ibid.

⁴⁵ Several Provisions of the Supreme People's Court on Issues Concerning Applicable Laws to the Trial of Patent Controversies, Article 21.

the entry into the channels of commerce in their jurisdiction of goods, including imported goods immediately after customs clearance”, and “to preserve relevant evidence in regard to the alleged infringement.”⁴⁶

China has carried out and implemented “Several Provisions on Questions Concerning the Application of Law to Pre-litigation Injunctions to Cease Patent Infringement Activities” in accordance with the provisions in TRIPS. In the Chinese patent granting procedure, preliminary publication might harm the interest of the applicant: as data shows, approximately half of the patent applications will be rejected.⁴⁷ If application is rejected, there’s no protection that the applicant can seek. Even if the application is able to be awarded patent, it can still be a long period before the award of the patent. If the patent is read by others or even put into use by others, the interest of applicants will surely be threatened.

The exploitation of the patent by anyone without the authorization by the patentee, namely, the infringement, is encouraged to be negotiated by the parties with each other. Those who are not willing to negotiate or fail to come to an agreement can seek help from administrative body or civil litigation.

Where there’s evidence improving that the patent right is being infringed, and damages may result from that activity, patentee can request the court to carry out protective measures to cease relative activities.⁴⁸ Usually the People’s Court will make judgements 48 hours after the application.

Damages of the patentee are determined based on lost-profit of the patentee, gain-profit of the infringer, or an appropriate multiple of a reasonable royalty for the patent.⁴⁹ The

⁴⁶ TRIPS art 50.

⁴⁷ Tang Zongshun, Patent Law Tutorial (2nd edition), China Law Press, 1996, p.144.

⁴⁸ Patent Law of People’s Republic of China, Article 66.

⁴⁹ Lei Fang (2005) p.10.

administrative remedies include injunctions and/or fines; the litigation remedies include an issuance of a public apology, confiscation of unlawful gain or infringing products and assets used in furtherance of the infringement.⁵⁰

iii. Legal protection of indirect infringement

Article 60(2) of the United Kingdom Patents Act ruled that “while the patent is in force and without the consent of the proprietor, he supplies or offers to supply in the United Kingdom a person other than a licensee or other person entitled to work the invention with any of the means, relating to an essential element of the invention, for putting the invention into effect when he knows, or it is obvious to a reasonable person in the circumstances, that those means are suitable for putting, and are intended to put, the invention into effect in the United Kingdom.”

The relative rule of Germany can be found in Article 10 of German Patent Act that “A patent shall have the further effect that a person not having the consent of the patentee shall be prohibited from supplying or offering to supply within the territory.”

The provision of patent infringement in article 11 of Chinese Patent Law excludes others to “make, use, offer to sell, sell or import the patented product; or use the patented process or use, offer to sell, sell or import the product directly obtained by the patented process, for production or business purposes” after the grant of the patent right.

This provision above is to set up the protection against direct patent infringement. However, during practices, it is not enough in providing abundant protection on the patentees. For instance, a patent is constituted by several parts, if one of the parts is infringed, there might be the possibility that the action might not be recognized as infringement to the patent. There is no existing provision in China that mentioned this kind of infringement, but in

⁵⁰ Several Provisions on Questions Concerning the Application of Law to Pre-litigation Injunctions to Cease Patent Infringement Activities, Chapter 7.

practices, some courts have already taken it into account⁵¹. Some other countries set up rules on the indirect infringement.⁵²

2.6.2 Comparison of administrative remedy

In TRIPS agreement, civil remedy and administrative remedy is arranged in one section, member states are required to rule the two remedies under the same principle. Thus, the rules on civil remedies are also in compliant with administrative remedies.⁵³ It is also specified in TRIPS agreement that “To the extent that any civil remedy can be ordered as a result of administrative procedures on the merits of a case, such procedures shall conform to principles equivalent in substance to those set forth in this Section.”⁵⁴

In Chinese Patent Law, the provision about administrative remedy set forth that “For the disputes resulted from the infringement, the parties concerned may settle it by themselves through consultation.”⁵⁵ However, sometimes the parties are not willing to settle the disputes by consultation, or they fail to form an agreement, legal actions can be taken by “the patentee or any interested party” in the people’s court. The parties can also seek help from the patent authorities. The patent authorities have the power to order the infringer to stop infringements immediately. According to the Administrative Procedure Law of People’s Republic of China, the infringer mentioned can take legal actions within 15 days after the decision by the patent authorities. Upon the request of the parties concerned, the patent authorities may mediate on the damages. When mediation does not work, ” the parties

⁵¹ Supreme People’s Court’s Opinion on several problems on the implement of General Provisions of Civil Law of People’s Republic of China, art 148.

⁵² Tian Lipu (1995), p.69-92.

⁵³ Jin Aijuan (2003), No. 4.

⁵⁴ TRIPS agreement, art 49.

⁵⁵ Patent Law of People’s Republic of China, art 60.

concerned may lodge a lawsuit with the people's court according to the Civil Procedure Law of the People's Republic of China".⁵⁶

A distinct characteristic of Chinese patent remedy system can be concluded from the above descriptions that: administrative remedies and civil remedies are carried out together. Administrative authority and judicial authority both play important roles in the protection of the right of patentees. However, although the civil remedies have a perfect legal system, the administrative authorities are lacking essential power that sometimes they cannot perform their responsibility. Legislations should improve administrative remedy accordingly.

2.6.3 Comparison of criminal remedy

Article 61 of TRIPS agreement sets up the provisions of criminal remedy as following:

Members shall provide for criminal procedures and penalties to be applied at least in cases of wilful trademark counterfeiting or copyright piracy on a commercial scale. Remedies available shall include imprisonment and/or monetary fines sufficient to provide a deterrent, consistently with the level of penalties applied for crimes of a corresponding gravity. In appropriate cases, remedies available shall also include the seizure, forfeiture and destruction of the infringing goods and of any materials and implements the predominant use of which has been in the commission of the offence. Members may provide for criminal procedures and penalties to be applied in other cases of infringement of intellectual property rights, in particular where they are committed wilfully and on a commercial scale.⁵⁷

Article 61 is the only provision in TRIPS that involves criminal problems. Contrary to civil remedy and provisional measures, criminal remedy is much more general, which leaves member states to make the regulation more precisely by themselves.

⁵⁶ Patent Law of People's Republic of China, art 60.

⁵⁷ TRIPS art 61.

In order to strike serious patent infringement actions, and to be close to international regulations, Chinese Patent Law ruled that: “Where any person passes off the patent of another person, except for bearing civil liabilities according to law, he shall be ordered to amend his acts by the authorities for patent work and the order shall be announced.”⁵⁸ In the aspect of punishment, “The illegal income of the said person shall be confiscated. He may be coupled with a fine of no more than 4 times of his illegal income and, where there is no illegal income, he may be imposed a fine of no more than 200,000 RMB. Where the infringement constitutes a crime, he shall be prosecuted for his criminal liability.”⁵⁹

Legislators set up a criminal charge of passing off the patent of others in Criminal Law that, where any person passes off the patent of another person, and where the infringement constitutes a crime, he shall be sentenced to a fixed-term imprisonment of no more than three years or criminal detention, and the compensation is optional.⁶⁰ The punishment of criminal patent infringement is specified in “Interpretation on Several Issues of Concrete Application of Law in Handling Criminal Cases of Infringing Intellectual Rights”⁶¹.

In German legislation, Crime of patent infringement refers to the infringement of the exploitation right of patentees; this is not settled as crime in Chinese legislation. In contrast, the passing off of others’ patents, which is ruled under Chinese Criminal Law, is not considered as crime in German legislation.

In China, there still exist many patent infringements. Patent infringement cases occupy a large percentage in the intellectual property disputes. Some serious patent infringements not only harm lawful rights and interests of patentees, but can also destroy patent system of the state. It is necessary to strengthen criminal remedy of patent infringements.

⁵⁸ Patent Law of People’s Republic of China art 63.

⁵⁹ Patent Law of People’s Republic of China, art 63.

⁶⁰ Criminal Law of People’s Republic of China .

⁶¹ Interpretation on Several Issues of Concrete Application of Law in Handling Criminal Cases of Infringing Intellectual Rights art 4.

3 Patent framework in Chinese companies

3.1 The quantity and quality of patents

In the data collected by the State Intellectual Property Office of P.R.C.,⁶² from April 1985 to December 2007, the number of invention-creation patent applications filed in the State Intellectual Property Office amounted to 1,334,676; the amount of Chinese domestic applications occupied 53.8% of the total, namely, 718,207. Inventions only occupy 33.1% of the total domestic applications. With regard to enterprise applications, among foreign countries' applications, approximately 96% of the inventions are service inventions; as for China, only 63.6% of the applications came from enterprises. Chinese enterprises' patent applications mainly focus on traditional Chinese medicine, food, non-alcoholic beverage, insert method, sewage disposal and special ceramics products, etc.

In the international competition, lots of products from China can only be exported to the countries where certain patents had not been issued. The profits obtained by Chinese enterprises are therefore restricted. The lack of quantity and quality of patents restricts Chinese enterprises from competing in the international market.

3.2 The recognition of the importance of patents

Many enterprises, especially small and medium-sized enterprises, are holding an ex parte point of view that: to apply for patent protection for an invention and obtain the patent is the only purpose of the enterprise's patent strategic plan.⁶³ However, despite that it is important to obtain patent right for enterprises, it is even more important for enterprises to focus on the value of the patents in practices. One of the weaknesses is inside the

⁶² Data collected from Patent statistic annual report (2007).

⁶³ Liu Binbin (2006), p 211.

enterprises: more than half of Chinese enterprises haven't applied for any patent protection.⁶⁴

In an investigation carried out among Chinese enterprises, 63.2% enterprises hold the opinion that it is not necessary to apply for domestic patents; 71.1% enterprises hold that it is not necessary to apply for foreign patents.⁶⁵ It can be seen that the recognition of the importance of patent is still weak among Chinese enterprises.

Most of the enterprises still adopt technologies passively, the importance of the patentability of core technology haven't been highly recognized. Patent can be either a weapon in market competition, or a barrier blocking the entrance to the market. For enterprises who own core technology patents, patents are the weapons in the market competition. By contrast, for the enterprises who do not own patents, the patents become the wall blocking the entering into the market.

For the enterprises who realize the importance of patents, they may try to submit patent applications in other countries where the countries might be their potential market. The following table shows the number of Patents Granted by country of origin according to the statistics by The U.S. Patent and Trademark Office. It can be seen from the table that number of patents granted to China mainland is less than Hong Kong. As the patents granted in the US increase year by year, Chinese enterprises still have a long way to go.

The current situation China is that, patents are still blocking the way for Chinese enterprises to enter international market.

⁶⁴ Liu Jie (2009), Chapter 2(2)

⁶⁵ China Information Guide (2004), No.6.

Table 1 – Number of Patents Granted as Distributed by Year of Patent Grant, Breakout by Country of Origin⁶⁶

	2004	2005	2006	2007	2008	2009	1977-2009
Total, U.S. And Foreign Origin	15695	12951	20965	24062	25565	23116	363647
GERMANY	476	474	773	810	976	1197	11041
UNITED KINGDOM	406	370	664	676	687	782	8724
FRANCE	286	222	395	556	600	628	7302
CHINA,HONG KONG S.A.R.	329	311	445	418	405	281	5883
CHINA, PEOPLE'S REPUBLIC OF	192	163	309	462	647	613	2762

3.3 Patent administration departments and patent analysis inside enterprises

There is limited number of enterprises in China that set up patent department to manage patents inside the companies like Haier Co., Ltd., Lenovo Co., Ltd., Huawei Co., Ltd., etc. In most Chinese companies, there's no such department. It is obvious that companies who do not have patent management system cannot carry out useful information by the searching of patents, which can be helpful to the manufacture and operation for themselves. Thus, because of blind technology import and exploitation, huge waste of funds and labour is unavoidable.

Patent analysis is a valuable work for the inventors and enterprises. For example, CHI Research is an American patent analysis institution. Its main customers include lots of large enterprises, CSIRO and ARC of Australia, European Union, MITI/MET, NASA, the National Institution of Health of the USA, etc. When making strategic patent plan, these

⁶⁶ Table cut from USPTO Calendar Year Patent Statistics (2009)

enterprises and institutions usually refer to the patent reports carried out by CHI Research.⁶⁷

3.4 The adoption of International rules and regulations

Although China has entered into the Patent Cooperation Treaty, lots of Chinese companies have not realized what they can benefit from the PCT application—the low cost and expedient procedure.

Take Japan for example. In 2009, Japan was the country submitted the most patent applications at USPTO. The application amount was approximately 25,000 more than the applications made by Germany, who submitted second most applications.⁶⁸ In recent years, three Japanese enterprises—Nichia Co., Ltd, Canon Co., Ltd and Toshiba Co., Ltd, obtained most patents in USPTO.⁶⁹ Each year Toshiba company submits about 15,000 patents in Japan; most applications will be submitted to the US and other countries, e.g. EU and China. In 2002, approximately 1,000 applications were granted patent right by the USPTO. The US adopts the “Reduction to Practice” principle. In order to adapt to this principle, Toshiba Company requires its researchers to take notes of data showing the features and examples of the technology down on the daily log during the research of a program, in addition, the research’s differences from the existing technologies and advantages, photos, analysis materials should also be recorded and signed; afterwards all the materials will be notarized by notarization office. These materials can be carried out as strong evidences when disputes come out. We can see that Toshiba Company has attached high importance to the overseas patent application.

⁶⁷ Yu Zehui (2004), Sec. 2(7)

⁶⁸ Data collected from USPTO Calendar Year Patent Statistics (2009).

⁶⁹ Yu Zehui (2004), Sec. 2(2).

By analyzing the number of PCT applications received by World Intellectual Property Organization between different countries⁷⁰, it can be easily found that applications from China were still lying on a low level.

3.5 Patent authorization and patent cross license

Since China “opened its door”, numerous technologies have been brought in from foreign countries. However, the import of technologies cannot be considered as the final aim. Independent intellectual property should be developed. However, in some enterprises of China (e.g. three top motor corporations: FAW Group, Dongfeng Motor Group and Saic Group), are still repeating the importation of technologies.

By contrast, there are still lots of companies who develop independent technologies after the importation of foreign technologies. Samsung Corporation is an outstanding model for Chinese enterprises.⁷¹ When they are confronted with a patent barrier, Samsung firstly carry out a program to assess cost and profit. If the profit brought by the patent can exceed the cost by a specific percentage, Samsung will buy the patent without hesitation.

3.6 Relationship between Chinese enterprises and patent agencies

Most Chinese enterprises only seek help from patent agencies when they need to submit patent applications. They seek help from law offices when facing lawsuits.⁷² However, if enterprises consign legal advises on the establishment of patent strategic plan to intellectual property agencies, enterprises can build feasible strategic plan, at the same time, the possibility of being confronted with patent disputes will be reduced. In spite of this, few

⁷⁰ WIPO Patent applications by country of origin and by office (1995-2008).

⁷¹ Liu Jie (2009), Sec.2.

⁷² Ibid.

enterprises ask intellectual property institutions for advises during the establishment and enforcement of patent strategic plan.

3.7 Numerous patent application from foreign enterprises restrict the development of Chinese enterprises

In recent years, foreign companies carry out mass patent applications in China and other countries, especially in the high-tech field. They carry out patent applications when Chinese enterprises are planning to apply for patents.⁷³ In this way, at the time Chinese enterprises began to exploit technologies, the patents of that technology had already been authorized to the foreign companies, in this way Chinese enterprises are facing patent barriers.

If Chinese companies don't wake up to make efficient patent strategic plan, the market, especially the high-tech market, both at home and abroad, might be taken up by foreign companies.

3.8 A model for Chinese enterprises — the technology framework of Huawei Technologies

Huawei Technologies Co., Ltd. is one of the biggest telecommunication companies in China. It published its annual report of 2009 on March 31, 2010. The sales revenue exceeded CNY 149.1 billion; there was a year-on-year increase of 19%.⁷⁴ Huawei kept on its pace of increase even during the financial crisis. These are the contribution of Huawei's strategy framework on technology.

⁷³ Liu Jie (2009), Sec.2.

⁷⁴ Huawei Annual Report 2009.

The huge amount of investments on researchers, and high recognition on intellectual property brought the enterprise fruitful results. For several years, Huawei is the enterprise who submits the most patent application in China. Until December 2009, the amount of its patent application reached 42,543, including 29,011 Chinese Patents, 7,144 international patents, and 6,388 patents in other countries. According to the report by WIPO, in the PCT patent applications of 2009, the number of applications by Huawei was the second most in the world.

Most of the researchers only pursue the novelty of technology. However, they are not so sensitive about the market. In order to avoid this, the company sets up the rule that each year hundreds of researchers should be converted to the position of marketing, simultaneously hundreds of marketing specialists should do researches. Meantime, one kind of research is to be handled by several departments in teamwork.

During the financial crisis, Huawei made the same decision as top American enterprises — to cut down the population of employees and the expanses, but never cut down, and even increase the investment into researches. In this way, the technical position can be maintained.

4 Case studies

4.1 6C v. 100 Chinese DVD manufacturers

The first case here focuses on the DVD patent events which aroused wide concern in China since the beginning of 21st century. This case can demonstrate main problems which restrict the development of Chinese enterprises. This case finally did not arise judicial actions, thus there's no judicial statement from the court.⁷⁵

At the beginning of 2001, an alliance of six DVD technological development companies, namely 6C, including Nichia Co., Ltd, Panasonic Co., Ltd, Mitsubishi Co., Ltd, Victor Company of Japan, Ltd, Toshiba Co., Ltd, and Time Warner Co., Ltd, officially put forward a technology exploitation fee on hundreds of Chinese DVD manufacturers. According to their statement, Chinese DVD manufacturers should pay 4% of the net price or 1 dollar for each DVD player produced before March 2001, otherwise additional accrual might be claimed by "6C alliance". Afterwards, a large number of DVD players exported from China to the European Union were detained by local customs. On March 8, 2002, "6C alliance" gave Chinese enterprises an ultimatum that if Chinese enterprises did not apply before March 31, 2002, "6C alliance" will take legal processes separately through the assessment of each company. On April 1, 2002, Chinese enterprises came to an agreement with "6C alliance" on the problem of patent exploitation fee; therefore "6C alliance" would not take legal actions.

There are several questions generated from this case: When Chinese manufactures produce and sell the DVD players in domestic market, can the activities constitute infringements to the patent right of "6C alliance"? If the activities do not constitute an infringement, then is it necessary to pay the patent exploitation fee? Does the exportation of DVD players constitute an infringement of the patent right? Can "6C alliance" be granted patent right in China? Following is the analysis of these questions.

⁷⁵ Case cited from Shandong Economic Strategy Research, 12th issue, 2002.

- i. Dose the domestic manufacture and sale of DVD players constitute an infringement of the patent right?

One of the characteristics of patent right is the regional feature, which means that the patent right issued in a specific country can only obtain legal protection in this specific country, other countries do not have the obligation to protect this right. Thus, this kind of technology can be exploited freely, without the authorization of the patentee, in the states where the technology has not obtained patent right. In order to obtain wider protection of the patent right, patentees should obtain patent right from the administrative bodies where they need the technology to be protected. China is a member state of both Paris Convention and TRIPS agreement, both of them adopts the principle of independent protection. Thus the legal protection of patent is legislated by member states.

In this case, although “6C alliance” has carried out relative patent applications in China, the applications were still in examination procedure, they had not obtained legal authorization during the period of the case. In the above case, “6C alliance” did not have relative patent right in China, which means, they could not obtain patent protection in China at the time. As a result, the manufacture, sale and import activities could not constitute patent infringement. However, the activities that the Chinese manufacturers exported DVD products to countries where the patents of “6C alliance” had already obtained patent right, form infringements of the patent right. Thus, it is lawful for some European Union customs to detain the DVD players. The indemnity could only cover the loss caused by the exportation.

- ii. Is it necessary to pay for the patent exploitation fee?

Because “6C alliance” had not obtained patent right in China, domestic producing, exploiting, selling, and importing activities of DVD players by Chinese manufacturers could not be counted as infringements to the patent. However, this does not mean that

Chinese manufacturers could exploit this technology for free, because the patent application of “6C alliance” had already been taken into examination procedure. Article 13 of Chinese Patent Law rules that: “after the publication of the application for a patent for invention, the applicant may require the entity or individual exploiting the invention to pay an appropriate fee”. According to article 13 of Chinese patent Law, “6C alliance” could ask Chinese manufacturers to pay appropriate exploitation fee, however, this does not mean that there might exist infringement in domestic exploitation.

iii. Does the exportation of DVD players constitute an infringement of the patent right?

Patent exhaustion means that “the first unrestricted sale of a patented item exhausts the patentee’s control over that particular item”⁷⁶. Article 6 of TRIPS agreement prescribed the doctrine of patent exhaustion.⁷⁷ This doctrine is also adopted in article 63 of Chinese patent law⁷⁸:

None of the following shall be deemed an infringement of the patent right:

(1) Where, after the sale of a patented product that was made or imported by the patentee or with the authorization of the patentee, or that was directly obtained by using the patented process, any other person uses, offers to sell or sells that product; [...]

In this case, some components used in the manufactures carried out by Chinese companies were imported from abroad, the patentees’ control over that components were exhausted according to the patent exhaustion doctrine. Thus, the usage and resell of DVD players produced in China could not constitute infringement. However, not all WTO member states adopt the doctrine of patent exhaustion, before quoting this doctrine, patent law of relative

⁷⁶ http://en.wikipedia.org/wiki/Exhaustion_doctrine

⁷⁷ TRIPS agreement Article 6: “For the purposes of dispute settlement under this Agreement, subject to the provisions of Articles 3 and 4 nothing in this Agreement shall be used to address the issue of the exhaustion of intellectual property rights.”

⁷⁸ Patent Law of People’s Republic of China art 63(1).

states should be studied. Moreover, in the countries where patent exhaustion doctrine is adopted, after patented items are brought into business, only the rights for usage and sell are exhausted, the right for manufacture is not exhausted. If the components of the DVD players were copied by Chinese manufacturers, it could still be patent infringement.

There's a restriction of patent exhaustion doctrine, namely, parallel importation. The term "parallel importation" refers to "goods produced and sold legally, and subsequently exported"⁷⁹; the importation of the goods by the country where the patent was issued still requires the patentees' authorization. In this case, the DVD manufacturers in China were using the parts produced and sold by "6C alliance". If the DVD players are to be sold in China or other countries where the patent was not authorized, the patent exhaustion doctrine could apply, and the selling of DVD players would not constitute patent infringement. If these DVD players are to be sold in the countries where the technologies had been authorized patent right, then the selling could constitute patent infringement. Moreover, before items be sold back to the countries where the components came, sellers should obtain the authorization of the patentees. Thus in this case, the importers might be sued in the scope of importation right.

iv. Can "6C alliance" be granted patent right in China?

The main aim of the patent system is to authorize definite termed right to inventors, as the reward to the inventors. The patent system should not damage the right of anyone else in public, or restrict the priority right of others. This right is settled in article 63 of Chinese Patent Law:" None of the following shall be deemed an infringement of the patent right: [...] (2) Where, before the date of filing of the application for patent, any person who has already made the identical product, used the identical process, or made necessary preparations for its making or using, continues to make or use it within the original scope only".

⁷⁹ Christopher Heath (1997).

In case Chinese manufacturers had begun to exploit the technology before the application by “6C alliance”, the exploitation would not be an infringement. At the same time, the technology would not be authorized as a patent, because it could not satisfy the requirement of a patent in China—novelty and inventive. If the patent right could not be authorized, the exploitation of the technology would not be patent infringement. However, this does not apply in the countries that the technology had already been issued patents, and the sales activities could still constitute infringement.

4.2 Gertrude Neumark Rothschild v. 34 LED enterprises (“337 events”)

“337 events”⁸⁰ is another typical case in China, which aroused public attention, especially in high-tech companies in recent years. Chinese governments also recognise the seriousness of this case. In 2008, “Shenzhen Nanshan Area Science and technology Bureau” together with “Shenzhen Nanshan Intellectual Property Bureau” published a report to analysis the current situation of LED patents in resolving the 2008 “337 events”, which will be discussed in the following description.

The word “337” here refers to Section 337 of the United States Tariff Act of 1930, stating that, “the American International Trade Committee (ITC) may take an investigation responding to the American imported cargo encounter problems like improper or unfair competitions in patent, copyright, trademark, geography symbol, industrial product outward appearance design, integrated circuit template, unpublicized information production”. The provision of this section regulate that, once the ITC hold that one production infringes the patent right of American enterprises, ITC may issue an order to prohibit the import of this production.

On February 20, 2008, according to the patent US 5252499, naming “Wide Band-Gap semiconductors having low bipolar resistivity and method of formation”, the patentee

⁸⁰ Case cited from Analysis of American 337 LED Lawsuit Enterprise Emergency (2008).

Gertrude Neumark Rothschild, retired professor of Columbia University, applied for investigation on 34 LED enterprises in the world by United States International Trade Commission (USITC), requesting the prohibition of the whole industry or productions of the same category, and the infringer to be investigated to stop infringement. On March 20, 2008, USITC carried out investigation on 30 enterprises, including four Chinese Enterprises in Shenzhen (Shenzhen Zhoulei Electronics Co., Ltd., China; Shenzhen Exceed Perseverance Electronic Ltd., China; Shenzhen Lucky Light Electronics Co., Ltd., China; Guangzhou Hongli Opto-Electronic Co., Ltd., China).⁸¹

When analyzing the patent US 5252499⁸², it can be found out that the main claim of this patent was aimed at II-VI semiconductor, materials like GaN for the II-VI semiconductor was not the main objective; that was also explained in the claims of the patent. But in the application carried out onto 30 enterprises, all the products designed with GaN p-type mix were included. It is considered that the application may not threaten the manufacturers in the field of light-emitting materials. The problem raised is: can the patentee request for the enlargement of right for one claim in the patent?

The Chinese enterprises decided to associate to respond to the investigation. Relating considerations by them are listed as following:

- i. The production engineering procedures carried out by some Chinese upstream LED enterprises have some differences with the technical proposal raised by the patent US 5252499. Moreover, some procedures possess have notable process or substantial characteristic, or even have obtained their own patent, which indicate that the production procedure is not an infringement of the patent US 5252499.

⁸¹ Analysis Of American 337 LED Lawsuit Enterprise Emergency, p.4.

⁸² Available at USPTO patents

ii. Some enterprises use different material system from the patent US 5252499, which claimed Zinc Oxide to be its material. If the material they used belongs to different technical proposal, then it would not constitute an infringement.

iii. The patent US 5252499 is using a processing method under low temperature. If some of the Chinese enterprises were using processing methods under high temperature, or under different pressure which did not use the method in claims of patent US5252499, then it could not be an infringement.

In this case, Chinese LED companies finally came into agreements, and the plaintiff requested USITC to cancel the investigation on Chinese enterprises.

More and more American enterprises are referring to Section 337, in order to restrict Chinese productions to be imported to the USA. The following table⁸³ shows cases being investigated by USITC.

Table 2 337 investigations in China

Year	2001	2002	2003	2004	2005	2006	2007	July 2008
China	1	5	8	10	10	13	16	8
Total	24	17	19	25	29	33	33	30

For Chinese companies, the fatal weakness of them is the lack of core technology patents. Thus Chinese enterprises can be easily sued for infringement of patents during the export.

⁸³ Analysis Of American 337 LED Lawsuit Enterprise Emergency, p.21.

5 Conclusion

As an important part in the cycle of international economy, enterprises should be familiar with the rules of intellectual property. Chinese enterprises are confronted with lots of cases relating to intellectual property. In order to find out resolutions for Chinese enterprises, this research did not study only into the framework of enterprises, but also studied deep into Chinese patent legislation system. It's not only the enterprise's responsibility to improve patent consciousness: the governments should take actions to raise public awareness of the importance of intellectual property right. Legislation should also be improved to protect patent right of the patentees. By the comparison with European countries in the scope of legislations on patent law, there appeared several shortages in Chinese legal patent protection system. Only when the legal protection of patent right is complete can the enterprises make more perfect strategic patent plan. In order to realize these, my recommendations to Chinese governments and Chinese enterprises are listed as followed.

5.1 Recommendations to Chinese governments in the aspect of patent legislation

5.1.1 Broaden the scope of the patentability in the legislation of China

For the inventions that cannot obtain patent right in China, but is accepted in other countries, the relevant inventors should be allowed to apply for patent protection directly from abroad — in order to protect domestic invention, inventors shall register in national administrative body, the body cannot publish the information of the invention before its publication date in the country where the application is carried out, without the inventors' authorization.

5.1.2 Enrich the provisions protecting service inventions

With regard to the patent term problems mentioned in the above sections of this thesis, it is reasonable to consider extending the protection period of specific patents, e.g. medicines. In the current legislation there's no additional provision of extending patent term, besides the 20 years term for inventions. Hence, China may follow the European countries (e.g. the UK) to set up a remedy system for specific patent applicants; accordingly, the intellectual property can receive more effective protection.

5.1.3 Strengthen the patent infringement remedy

Legislators may think about setting up provisions of indirect patent infringement remedy to protect the interest of patentees more efficiently as what is specified in this thesis. When an essential element of an invention patent is infringed, victims can sue for legal protection accordingly.

The system of indemnity for patent infringement might be revised to be more protective. Firstly, there are three methods of indemnity in the provisions of the judicial interpretation⁸⁴; it is obvious that the victims know which type of indemnity suits for them more clearly than the courts, thus the legislation can endow the patentee with the option of indemnity method. When the patentee gives up the option, then the indemnity method can be chosen by the court fairly and reasonably. Secondly, fix the amount of compensation. The fixation of compensation should take into account the following factors: the value of the market for the patent infringed; type of the patent; and to what extent the patent has been infringed.

⁸⁴ Several Provisions of the Supreme People's Court on Issues Concerning Applicable Laws to the Trial of Patent Controversies(2009)

5.2 Recommendations for Chinese enterprises

5.2.1 Establish intellectual property department, to improve patent consciousness inside enterprises and set up strategic patent plan.

In order to occupy more market share and obtain higher position in the market, enterprises shall lay down strategic patent plans which can catch up with the development direction of the market and avoid existing restrictions in technologies, and can establish the target of technological exploitation. Many Chinese enterprises neglect the importance of legal protection of new technologies. For an enterprise, patents are the foundation for its development. Patents can both give protection to the enterprise, and carve out a way in the market competition. Thus, it is most important for enterprises to strengthen the system of patent application.

In order to realize these objectives, enterprises can establish their intellectual property departments, and hire persons who are skilled in the relative technological field, and have the knowledge of international trade and intellectual property law. In this way, the skilled persons will establish effective patent strategic plan for the enterprise, give right direction to the development of the management, and render assistance to the enterprise during dispute resolution or business talks relating to intellectual property.

5.2.2 Build and improve patent database inside enterprises

Different enterprises have different target of the manufacture. In order to find out the most proper strategic plan, the intellectual property department should carry out patent research work according to the scope of operation, operation objectives and the program of production. During the research work, the department should carry out relative analysis upon the data that has been collected, and find out the most exact direction of current patent situation.

To be specific, one of the important tasks is to investigate current situation of relative patents of the country where the products are going to be sold. After the investigation, intellectual property department shall analysis the data collected and draw a patent map of the industry, which clearly shows the distributing of current patents owned by other enterprises of the same industry.

5.2.3 International patent applications

It is obvious that if an enterprise pursues to keep its market share in foreign countries, like the US and Europe, it is important to do patent applications in its potential market. At the beginning of the consideration of opening international market, it should do relative researches on relative patents of the country where the products are going to enter. By doing this, enterprises can have a general idea of the status quo of the potential market, thus the risk of being sued for patent infringement can be reduced. Otherwise the work investigations that has been put into the exploitation of the market might be gave up because of the infringement of existing patents.

5.2.4 Establish rigorous patent net

When applying for a patent right, many companies apply for several other patents whose claims are related to this core patent. This can avoid the patent to be exploited though methods which are similar to the patent but cannot be judged to be infringement. This protection method has been used by lots of large enterprises. For Chinese enterprises, it is necessary to draw on the experience of international companies. In the 1960s to 1970s, Japanese enterprises were in the same situation with current Chinese enterprises. At that time Japanese enterprises began to export large number of products; they were also strengthened by patent systems. Japanese enterprises did not own core technology patents. In order to open the international market, Japanese enterprises exploited lots of applicable peripheral patents surrounding core technologies of other countries. They built a rigorous

patent net, which placed difficulties when foreign companies authorize their patents. In this way, Japanese began to have the opportunity to bargain with foreign companies, even to obtain cross licenses. After decades, the strategic plan changed from defender strategy to offensive strategy.

5.2.5 Obtain patent authorization and patent cross license

Through cross license, the enterprise can exchange its patent technologies for another enterprise's patent technologies. When an enterprise is confronted with a patent barrier, patent cross license can be taken into the patent strategic plan.

5.2.6 Establish industrial associations

The establishment of industrial associations can associate the advantages of different enterprises. For Chinese enterprises, associations with domestic and international enterprises are both recommended. However, the premise of the association is that the enterprises shall have advantages in specific technologies, otherwise nobody wants to associate. Single strength of most Chinese enterprises is not strong enough, to build an association and carry out researches together is more feasible.

References

Books and Articles

Hector MacQueen, Charlotte Waelde and Graeme Laurie, *Contemporary intellectual property*, Oxford, (Oxford University Press) 2007

Ian Walden, *Telecommunications Law and Regulation*. 3rd edition. Oxford, (Oxford University Press) 2009

Futian Chenan, *Intellectual property in the market competition*. Beijing. (The Commercial Press) 2000

Arthur R. Miller, Michael H. Davis, *Intellectual Property-Patents, Trademarks And Copyright in a Nutshell*. 4th edition. (Thomson Press) 2007

Binbin Liu, *theory of intellectual property and strategic research*. Lanzhou. (Gansu People's Press) 2006

Lipu Tian, Research on several common questions relating to patent protection and patent infringement, In: *Patent Law Researches*, 1995, pp. 69-92.

Zhao Xiaoming, Wang Minghua, *Analysis of the jurisprudence of DVD patent cases*. In: *Shandong Economic Strategy Research*, December 2002.

He Limei, Yin Zhigang, *Questions and Countermeasures for Chinese Enterprises during the Implementation of Strategic Patent Plan*. In: *Chinese Information Guide*. June 2004.

Yu Zehui, *Patent Crisis among Chinese Enterprises and the Countermeasures. In: Chinese technology productions.* 2004. 15th publication.

Wenqi Liu, *Approaches to Ensuring Access to Pharmaceuticals under the New China's Patent Law*, 26 April 2010.

<http://nopr.niscair.res.in/bitstream/123456789/9063/1/JIPR%2015%283%29%20228-234.pdf> [Visited 23 Dec 2010].

Huawei Annual Report 2009 <http://www.huawei.com/file/download.do?f=6708> [Visited 8 Dec 2010].

State Intellectual Property Office of P.R.C, *Patent statistic annual report of 2007.*

<http://www.sipo.gov.cn/sipo2008/ghfzs/zltjbb/jianbao/year2007/a.html> [Visited 8 December 2010].

Christopher Heath, *Parallel Imports and International Trade.*

http://www.wipo.int/edocs/mdocs/sme/en/atrip_gva_99/atrip_gva_99_6.pdf [Visited 8 December 2010].

European Patent Office, *'The European Patent Litigation Agreement (ELPA)', Why is the current situation so complicated?* <http://www.epo.org/topics/issues/epl.html> [Visited 8 December 2010].

USPTO 2009 Calendar Year Patent Statistics (January 1 to December 31). General Patent Statistics Reports Available For Viewing.

<http://www.uspto.gov/web/offices/ac/ido/oeip/taf/reports.htm> [Visited 8 December 2010].

WIPO Patent applications statistics. <http://www.wipo.int/ipstats/en/statistics/patents/> [Visited 8 December 2010].

Bitlaw, *Patent Law in the United States*. <http://www.bitlaw.com/patent/index.html> [Visited 15 December 2010].

Legislations

337 provisions	U.S. – Section 337 of Tariff Act 1930
U.S. Patent Act	U.S. Code Browse TITLE 35--PATENTS
German Patent Act	German Patent Law (last amended by the Laws of July 16 and august 6, 1998)
French IP Code	MISE A JOUR LEGIFRANCE 15/06/03 <i>Dernier texte modificateur Loi 2003-706 du 01/08/03 (JO 02/08/03)</i>
UK Patents Act 1977	The Patents Act 1977 (as amended), An unofficial consolidation produced by Patent Legal Section, 1 January 2010
GermanyLaw on Employee Inventions	Law on Employee Inventions(of July 25, 1957, as last amended by the Law of June 24, 1994)
Chinese Criminal Law	Criminal law of People’s Republic of China
Chinese Patent Law	Patent Law of the People’s Republic of China

Annex: Chinese Patent Law

Patent Law of the People's Republic of China

Adopted at the 4th Session of the Standing Committee of the Sixth National People's Congress on March 12, 1984

Amended by the Decision Regarding the Revision of the Patent Law of the People's Republic of China, adopted at the 27th Session of the Standing Committee of the Seventh National People's Congress on September 4, 1992

Amended for the second time by the Decision Regarding the Revision of the Patent Law of the People's Republic of China, adopted at the 17th Session of the Standing Committee of the Ninth National People's Congress on August 25, 2000

Chapter 1: General Provisions

Article 1. This Law is enacted to protect patent rights for inventions-creations, to encourage inventions-creations, to foster the spreading and application of Inventions-creations, and to promote the development of science and technology, for meeting the needs of the construction of socialist modernization.

Article 2. In this Law, "inventions-creations" mean inventions, utility models and designs.

Article 3. The Patent Administrative Organ under the State Council is responsible for the patent work nationwide, receives and examines patent applications and grants patent rights for inventions-creations that conform with the provisions of this Law.

The authorities for patent work under the people's governments of provinces autonomous regions and municipalities directly under the Central Government are responsible for the patent administration work of their own administrative areas.

Article 4. Where an invention-creation for which a patent is applied relates to the security or other vital interests of the State and is required to be kept secret, the application shall be treated in accordance with the relevant prescriptions of the State.

Article 5. No patent right shall be granted for any invention-creation that is contrary to the laws of the State or social morality or that is detrimental to public interest.

Article 6. An invention-creation, made by a person in execution of the tasks of the entity to which he belongs, or made by him by mainly using the material and technical means of the entity is a service invention. For a service invention-creation, the right to apply for a patent belongs to the entity. After the application is approved, the entity shall be the patentee.

For a non-service invention-creation, the right to apply for a patent belongs to the inventor or creator. After the application is approved, the inventor or creator shall be the patentee. For an invention-creation, made by a person by using the material and technical means of the entity to which he belongs, and where the entity and the inventor or creator has entered into an agreement under which there is provision on who has right to apply for a patent and to whom the patent right belongs, the provisions of the agreement shall prevail.

Article 7. No entity or individual shall prevent the inventor or creator from filing an application for a patent for a non-service invention-creation.

Article 8. For an invention-creation jointly made by two or more entities or individuals, or made by an entity or individual in execution of a commission for another entity or individual, the right to apply for a patent belongs, unless otherwise agreed upon, to the

entity or individual which made, or to the entities or individual which jointly made, the invention-creation. After the application is approved, the entity or individual that applied for it shall be the patentee.

Article 9. Where two or more applicants file applications for patent for the identical invention- creation, the patent right shall be granted to the applicant whose application was filed first.

Article 10. The right to apply for a patent and the patent right may be assigned.

Any assignment, by a Chinese entity or individual, of the right to apply for a patent, or of the patent right, to a foreigner must be approved by the competent department concerned of the State Council.

Where the right to apply for a patent or the patent right is assigned, the parties must conclude a written contract and should register it with the patent administrative organ under the State Council. The patent administrative organ shall announce the registration .The assignment will come into force upon the date of registration.

Article 11. After the grant of the patent right for an invention or utility model, except as otherwise provided for in the law, no entity or individual may, without the authorization of the patentee, exploit the patent, that is, make, use, offer to sell, sell or import the patented product; or use the patented process or use, offer to sell, sell or import the product directly obtained by the patented process, for production or business purposes.

After the grant of the patent right for a design, no entity or individual may, without the authorization of the patentee, exploit the design, that is, make, sell or import the product incorporating its or his patented design, for production or business purposes.

Article 12. Any entity or individual exploiting the patent of another must, except as provided for in Article 14 of this Law, conclude with the patentee a written license contract for exploitation and pay the patentee a fee for the exploitation of the patent. The licensee has no right to authorize any entity or individual, other than that referred to in the contract for exploitation, to exploit the patent.

Article 13. After the publication of the application for a patent for invention, the applicant may require the entity or individual exploiting the invention to pay an appropriate fee.

Article 14. For any patent for invention belonging to state-owned enterprises or entities, which is of great significance to national or public interests, the competent departments concerned of the State Council as well as the people's governments of provinces, autonomous regions or municipalities directly under the Central Government have the power to decide, after approved by the State Council, the said patented invention be spread and exploited within the prescribed scope and to allow designated entities to exploit it . The entities that exploit it shall, according to the prescriptions of the State , pay exploitation fees to the patentee.

Any patent for invention belonging to a Chinese entity under collective ownership or an individual, which is of great significance to national or public interests and is in need of spreading and exploitation, may be treated alike by making reference to the provisions of the preceding paragraph.

Article 15. The patentee has the right to affix a patent marking and to indicate the number of the patent on the patented product or on the packing of that product.

Article 16. The entity that is granted the patent right shall award to the inventor or creator of a service invention-creation a reward and, upon the exploitation of the patented invention-creation, shall award to the inventor or creator an appropriate remuneration based on the extent of exploitation and application and the economic benefits yielded.

Article 17. The inventor or creator has the right to be named as such in the patent document.

Article 18. Where any foreigner, foreign enterprise or other foreign organization having no habitual residence or business office in China files an application for a patent in China, the application shall be treated under this Law in accordance with any agreement concluded between the country to which the applicant belongs and China, or in accordance with any international treaty to which both countries are party, or on the basis of the principle of reciprocity.

Article 19. Where any foreigner, foreign enterprise or other foreign organization having no habitual residence or business office in China applies for a patent, or has other patent matters to attend to, in China, he or it shall appoint a patent agency designated by the patent administrative organ under the State Council to act as his or its agent.

Where any Chinese entity or individual applies for a patent or has other patent matters to attend to in the country, it or he may appoint a patent agency to act as its or his agent.

The patent agencies should abide by the laws and administrative regulations and should deal with patent applications and other patent matters according to the commissions of the clients. Except for those applications that have been published or announced, the agencies should bear the responsibility for keeping confidential the content of its clients' inventions-creations. The administrative regulations for administering the patent agencies shall be formulated by the State Council.

Article 20. Where any Chinese entity or individual intends to file an application in a foreign country for a patent for its or his domestic invention-creation, it or he shall file first an application for patent with the patent administrative organ under the State Council and, shall appoint a patent agency designated by the said organ to act as its or his agent, and shall abide by the prescriptions of Article 4 in this law.

Any Chinese entity or individual may, according to the international treaties concerned to which China is a party, file an international application for patent for its or his invention-creation. The applicant for the international application should abide by the provisions of the preceding paragraph .

The patent administrative organ under the State Council shall handle the international application for patent in line with the international treaty to which China is a party, this law and the administrative regulations concerned made by the State Council.

Article 21. The patent administrative organ under the State Council and the patent reexamination board subordinated to it shall handle patent applications and requests concerned according to law and in the spirit of objectiveness, justice, precision and punctuality.

Until the publication or announcement of the application for a patent, staff members of the patent administrative organ and other personnel involved have the duty to keep its content confidential.

Chapter 2: Requirements for Grant of Patent

Article 22. Any invention or utility model for which patent right may be granted must possess novelty, inventiveness and practical applicability.

Novelty means that, before the date of filing, no identical invention or utility model has been publicly disclosed in publications in the country or abroad or has been publicly used or made known to the public by any other means in the country, nor has any other person filed previously with the patent administrative organ under the State Council an application which described the identical invention or utility model and was published after the said date of filing.

Inventiveness means that, as compared with the technology existing before the date of filing the invention has prominent substantive features and represents a notable progress and that the utility model has substantive features and represents progress.

Practical applicability means that the invention or utility model can be made or used and can produce effective results.

Article 23. Any design for which patent right may be granted must not be identical with or similar to any design which, before the date of filing, has been publicly disclosed in publications in the country or abroad or has been publicly used in the country, and must not collide with any legal prior rights obtained by any other person.

Article 24. An invention-creation for which a patent is applied for does not lose its novelty where, within six months before the date of filing, one of the following events occurred:

Chapter 3: Application for Patent

Article 26. Where an application for a patent for invention or utility model is filed, a request, a description and its abstract, and claims shall be submitted.

The request shall state the title of the invention or utility model, the name of the inventor or creator, the name and the address of the applicant and other related matters.

The description shall set forth the invention or utility model in a manner sufficiently clear and complete so as to enable a person skilled in the relevant field of technology to carry it out; where necessary, drawings are required. The abstract shall state briefly the main technical points of the invention or utility model.

The claims shall be supported by the description and shall state the extent of the patent protection asked for.

Article 27. Where an application for a patent for design is filed, a request, drawings or photographs of the design shall be submitted, and the product incorporating the design and the class to which that product belongs shall be indicated.

Article 28. The date on which the patent administrative organ under the State Council receives the application shall be the date of filing. If the application is sent by mail, the date of mailing indicated by the postmark shall be the date of filing.

Article 29. Where, within twelve months from the date on which any applicant first filed in a foreign country an application for a patent for invention or utility model, or within six months from the date on which any applicant first filed in a foreign country an application for a patent for design, he or it files in China an application for a patent for the same subject matter, he or it may, in accordance with any agreement concluded between the said foreign country and China, or in accordance with any international treaty to which both countries are party, or on the basis of the principle of mutual recognition of the right of priority, enjoy a right of priority.

Where, within twelve months from the date on which any applicant first filed in China an application for a patent for invention or utility model, he or it files with the patent administrative organ under the State Council an application for a patent for the same subject matter, he or it may enjoy a right of priority.

Article 30. Any applicant who claims the right of priority shall make a written declaration when the application is filed, and submit, within three months, a copy of the patent application document which was first filed; if the applicant fails to make the written declaration or to meet the time limit for submitting the patent application document, the claim to the right of priority shall be deemed not to have been made.

Article 31. An application for a patent for invention or utility model shall be limited to one invention or utility model. Two or more inventions or utility models belonging to a single general inventive concept may be filed as one application.

An application for a patent for design shall be limited to one design incorporated in one product. Two or more designs which are incorporated in products belonging to the same class and are sold or used in sets may be filed as one application.

Article 32. An applicant may withdraw his or its application for a patent at any time before the patent right is granted.

Article 33. An applicant may amend his or its application for a patent, but the amendment to the application for a patent for invention or utility model may not go beyond the scope of the disclosure contained in the initial description and claims, and the amendment to the application for a patent for design may not go beyond the scope of the disclosure as shown in the initial drawings or photographs.

- 1) where it was first exhibited at an international exhibition sponsored or recognized by the Chinese Government;
- (2) where it was first made public at a prescribed academic or technological meeting;
- (3) where it was disclosed by any person without the consent of the applicant.

Article 25. For any of the following, no patent right shall be granted:

- (1) scientific discoveries;
- (2) rules and methods for mental activities;
- (3) methods for the diagnosis or for the treatment of diseases;
- (4) animal and plant varieties;
- (5) substances obtained by means of nuclear transformation.

For processes used in producing products referred to in items (4) of the preceding paragraph, patent right may be granted in accordance with the Provisions of this Law.

Chapter 4: Examination and Approval of Application for Patent

Article 34. Where, after receiving an application for a patent for invention, the patent administrative organ under the State Council, upon preliminary examination, finds the application to be in conformity with the requirements of this Law, it shall publish the application promptly after the expiration of eighteen months from the date of filing. Upon the request of the applicant, the patent administrative organ under the State Council publishes the application earlier.

Article 35. Upon the request of the applicant for a patent for invention, made at any time within three years from the date of filing, the patent administrative organ under the State Council will proceed to examine the application as to its substance. If, without any justified reason, the applicant fails to meet the time limit for requesting examination as to substance, the application shall be deemed to have been withdrawn.

The patent administrative organ under the State Council may, on its own initiative, proceed to examine any application for a patent for invention as to its substance when it deems it necessary.

Article 36. When the applicant for a patent for invention requests examination as to substance, he or it shall furnish pre-filing date reference materials concerning the invention.

For an application for a patent for invention that has been already filed in a foreign country, the patent administrative organ under the State Council may ask the applicant to furnish within a prescribed time limit documents concerning any search made for the purpose of examining that application or concerning the results of any examination made in that

country. If, without any justified reason, the said documents are not furnished within the prescribed time limit, the application shall be deemed to have been withdrawn.

Article 37. Where the patent administrative organ under the State Council, after it has made the examination as to substance of the application for a patent for invention, finds that the application is not in conformity with the provisions of this Law, it shall notify the applicant and request him or it to submit, within a specified time limit, his or its observations or to amend the application. If, without any justified reason, the time limit for making response is not met, the application shall be deemed to have been withdrawn.

Article 38. Where, after the applicant has made the observations or amendments, the patent administrative organ under the State Council finds that the application for a patent for invention is still not in conformity with the provisions of this Law, the application shall be rejected.

Article 39. Where it is found after examination as to substance that there is no cause for rejection of the application for a patent for invention, the patent administrative organ under the State Council shall make a decision to grant the patent right for invention, issue the certificate of patent for invention, and register and announce it. The patent right for invention shall come into force upon the date of the announcement.

Article 40. Where it is found after preliminary examination that there is no cause for rejection of the application for a patent for utility model or design, the patent administrative organ under the State Council shall make a decision to grant the patent right for utility model or the patent right for design, issue the relevant patent certificate, and register and announce it. The patent right for utility model or design shall come into effect upon the date of the announcement.

Article 41. The patent administrative organ under the State Council shall set up a Patent Reexamination Board. Where an applicant is not satisfied with the decision of the patent

administrative organ under the State Council rejecting his application for patent, such applicant may, within three months from the date of receipt of the notification, request the Patent Reexamination Board to make a reexamination. The Patent Reexamination Board shall, after reexamination, make a decision and notify the applicant for patent.

Where the applicant for patent who made the request for reexamination is not satisfied with the decision of the Patent Reexamination Board, he or it may, within three months from the date of receipt of the notification, institute legal proceedings in the people's court.

Chapter 5: Duration, Cessation and Invalidation of Patent Right

Article 42. The duration of patent right for inventions shall be twenty years, the duration of patent right for utility models and patent right for designs shall be ten years, counted from the date of filing.

Article 43. The patentee shall pay an annual fee beginning with the year in which the patent right was granted.

Article 44. In any of the following cases, the patent right shall cease before the expiration of its duration:

- (1) where an annual fee is not paid as prescribed;
- (2) where the patentee abandons his or its patent right by a written declaration.

Any cessation of the patent right shall be registered and announced by the patent administrative organ under the State Council.

Article 45. Where, starting from the date of the announcement of the grant of the patent right by the patent administrative organ under the State Council, any entity or individual considers that the grant of the said patent right is not in conformity with the relevant

provisions of this Law, it or he may request the Patent Reexamination Board to declare the patent right invalid.

Article 46. The Patent Reexamination Board shall examine the request for invalidation of the patent right, make a decision and notify the person who made the request and the patentee. The decision declaring the patent right invalid shall be registered and announced by the patent administrative organ under the State Council.

Where any party is not satisfied with the decision of the Patent Reexamination Board declaring the patent right invalid or upholding the patent right, such party may, within three months from receipt of the notification of the decision, institute legal proceedings in the people's court.

The people's court shall notify the opponent party of the party which has requested for the invalidation procedure to be represented the proceedings as the third party.

Article 47. Any patent right which has been declared invalid shall be deemed to be non-existent from the beginning.

The decision of invalidation shall have no retroactive effect on any judgment or order on patent infringement which has been pronounced and enforced by the people's court, on any decision concerning the handling of patent infringement which has been implemented or enforced, and on any contract of patent license and of assignment of patent right which have been performed, prior to the decision of invalidation; however, the damages caused to other persons in bad faith on the part of the patentee shall be compensated.

If, pursuant to the provisions of the preceding paragraph, no repayment, by the patentee or the assignor of the patent right to the licensee or the assignee of the patent right, of the fee for the exploitation of the patent or the price for the assignment of the patent right is obviously contrary to the principle of equity, the patentee or the assignor of the patent right

shall repay the whole or part of the fee for the exploitation of the patent or the price for the assignment of the patent right to the licensee or the assignee of the patent right.

Chapter 6: Compulsory License for Exploitation of Patent

Article 48. Where any entity which is qualified to exploit the invention or utility model has made requests for authorization from the patentee of an invention or utility model to exploit its or his patent on reasonable terms and such efforts have not been successful within a reasonable period of time, the patent administrative organ under the State Council may, upon the application of that entity, grant a compulsory license to exploit the patent for invention or utility model.

Article 49. Where a national emergency or any extraordinary state of affairs occurs, or where the public interest so requires, the patent administrative organ under the State Council may grant a compulsory license to exploit the patent for invention or utility model.

Article 50. Where the invention or utility model for which the patent right was granted is of important technical advance of considerable economic significance compared with another invention or utility model for which a patent right has been granted earlier and the exploitation of the later invention or utility model depends on the exploitation of the earlier invention or utility model, the patent administrative organ under the State Council may, upon the request of the later patentee, grant a compulsory license to exploit the earlier invention or utility model.

Where, according to the preceding paragraph, a compulsory license is granted, the patent administrative organ under the State Council may, upon the request of the earlier patentee, also grant a compulsory license to exploit the later invention or utility model.

Article 51. The entity or individual requesting, in accordance with the provisions of this Law, a compulsory license for exploitation shall furnish proof that it or he has not been able to conclude with the patentee a license contract for exploitation on reasonable terms.

Article 52. The decision made by the patent administrative organ under the State Council granting a compulsory license for exploitation shall be notified to the patent concerned as soon as reasonably practicable and shall be registered and announced.

The decision of the patent administrative organ under the State Council granting a compulsory license for exploitation shall limit the scope and duration of the exploitation on the basis of the reasons justifying the grant. If and when the circumstances which led to such compulsory license cease to exist and are unlikely to recur, the patent administrative organ under the State Council may, upon the request of the patentee, terminate the compulsory license after examination.

Article 53. Any entity or individual that is granted a compulsory license for exploitation shall not have an exclusive right to exploit and shall not have the right to authorize exploitation by any others.

Article 54. The entity or individual that is granted a compulsory license for exploitation shall pay to the patentee a reasonable exploitation fee, the amount of which shall be fixed by both parties in consultations. Where the parties fail to reach an agreement, the patent administrative organ under the State Council shall adjudicate.

Article 55. Where the patentee is not satisfied with the decision of the patent administrative organ under the State Council granting a compulsory license for exploitation, or where the patentee or the entity or individual that is granted the compulsory license is not satisfied with the adjudication made by the patent administrative organ under the State Council regarding the exploitation fee payable for exploitation, he or it may, within three months from the receipt of the notification, institute legal proceedings in the people's court.

Chapter 7: Protection of Patent Right

Article 56. The extent of protection of the patent right for invention or utility model shall be determined by the terms of the claims'. The description and the appended drawings may be used to interpret the claims.

The extent of protection of the patent right for design shall be determined by the product incorporating the patented design as shown in the drawings or photographs.

Article 57. Where anyone exploits a patent without the authorization of the patentee, he or it constitutes an infringement to the patent right of the patentee. For the disputes resulted from the infringement, the parties concerned may settle it by themselves through consultation. Where the parties are not willing to settle the disputes through consultation or where the consultation fails to reach an agreement, the patentee or any interested party may institute legal proceedings in the people's court or to request the authorities for patent work to handle the matter. Where the authorities for patent work considers the infringement well found, it has the power to order the infringer to stop infringement acts immediately. In case the party concerned is not satisfied with the decision, he or it may, within 15 days from the receipt of the notification of the order, institutes legal proceedings in the people's court, according to the Administrative Procedure Law of the People's Republic of China. If such proceedings are not instituted within the time limit and if the order is not complied with, the authority for patent work may approach the people's court for compulsory execution. The authorities for patent work may, upon the request of the parties concerned, mediate on the damages concerned. If mediation does not work, the parties concerned may lodge a lawsuit with the people's court according to the Civil Procedure Law of the People's Republic of China.

When any infringement dispute relates to a process patent for the manufacture of a new product, any entity or individual manufacturing the identical product shall furnish proof to

the effect that a different process is used in the manufacture of its or his product . Where the infringement relates to a patent for utility model, the people's court or the authority for patent work may request the applicant to furnish search reports made by the patent administrative organ under the State Council .

Article 58. Where any person passes off the patent of another person, except for bearing civil liabilities according to law, he shall be ordered to amend his acts by the authorities for patent work and the order shall be announced. The illegal income of the said person shall be confiscated. He may be coupled with a fine of no more than 3 times of his illegal income and, where there is no illegal income, he may be imposed a fine of no more than 50,000 RMB. Where the infringement constitutes a crime, he shall be prosecuted for his criminal liability.

Article 59. Where any person passes any non-patented product off as patented product or passes any non-patented process off as patented process, he shall be ordered by the authority for patent work to amend his acts and the order shall be announced. The said person may be imposed a fine of no more than 50,000 RMB.

Article 60. The amount of damages for infringing a patent right shall be calculated according to the losses suffered by the patentee or the profits gained by the infringer out of the infringement. If it is too difficult to determine the damages based on such losses of the patentee or the profits of the infringer, the appropriate times of the royalties for licenses for the said patent may be applied *mutatis mutandis*.

Article 61. Where a patentee or any interested party who can provide any reasonable evidence that his right is being infringed or that such infringement is imminent, and any delay to stop the acts is likely to cause irreparable harm to his or its legitimate rights, he or it may, before instituting legal proceedings, request the people's court to order the suspension of related acts and to provide property preservation.

The people's court, when dealing with requests referred to in the preceding paragraph, the provisions of Articles 93 to 96 and Article 99 of the Civil Procedure Law of the People's Republic of China shall apply.

Article 62. Prescription for instituting legal proceedings concerning the infringement of patent right is two years counted from the date on which the patentee or any interested party obtains or should have obtained knowledge of the infringing act.

Where the license fee is not paid for the use of a patent for invention during the period when the said application is published and up to its being granted the patent right, the prescription for instituting legal proceedings by the patentee for requesting royalties is two years counted from the date on which the patentee obtains or should have obtained knowledge of the use of his patented invention by the user. However, where the patentee has already obtained or should have obtained the knowledge of the use of his invention before the date of granting the patent right, the prescription shall be counted from the date on which the patent right is granted.

Article 63. None of the following shall be deemed an infringement of the patent right:

(1)Where, after the sale of a patented product that was made or imported by the patentee or with the authorization of the patentee, or that was directly obtained by using the patented process, any other person uses, offers to sell or sells that product;

(2)Where, before the date of filing of the application for patent, any person who has already made the identical product, used the identical process, or made necessary preparations for its making or using, continues to make or use it within the original scope only;

(3)Where any foreign means of transport which temporarily passes through the territorial lands, territorial waters or territorial airspace of China uses the patent concerned, in accordance with any agreement concluded between the country to which the foreign means of transport belongs and China, or in accordance with any international treaty to which both

countries are party, or on the basis of the principle of reciprocity, for its own needs, in its devices and installations;

(4)Where any person uses the patent concerned solely for the purposes of scientific research and experimentation.

Any person who, for production and business purposes, uses or sells a patented product without knowing that it was made and sold without the authorization of the patentee, shall not be responsible for the damages caused so long as he proves that he obtains the product from legitimate channels of distribution.

Article 64. Where any person, in violation of the provisions of Article 20 of this Law, unauthorizedly files in a foreign country an application for a patent that divulges an important secret of the State, he shall be subject to disciplinary sanction by the entity to which he belongs or by the competent authority concerned at the higher level. If the circumstances are serious, he shall be prosecuted for his criminal liability according to the law.

Article 65. Where any person usurps the right of an inventor or creator to apply for a patent for a non-service invention-creation, or usurps any other right or interest of an inventor or creator, prescribed by this Law, he shall be subject to disciplinary sanction by the entity to which he belongs or by the competent authority at the higher level.

Article 66. The authorities for patent work should not participate in any such commercial activities as to recommend patented products to the public.

Where any authorities for patent work violates the provisions of the preceding paragraph, it shall be ordered to amend its ways and to eliminate its bad influence by its competent authority at the higher level or by the supervisory authority, and its illegal income shall be confiscated .Where the circumstances are serious, any person directly responsible or any

other person who are directly involved shall be subject to disciplinary sanction according to law.

Article 67. Where any staff member of the government organs for patent administration or of other related government organs constitutes a crime by ignoring his duty, abusing his official power, acting wrongfully out of personal considerations or committing fraudulent acts, he shall be subject to criminal sanction. If a crime is not constituted, he shall be subject to disciplinary sanction according to law.

Chapter 8: Supplementary Provisions

Article 68. Any application for a patent filed with, and any other proceedings before, the patent administrative organ under the State Council shall be subject to the payment of a fee as prescribed.

Article 69. This Law shall enter into force on April 1, 1985.