

**Comparative Study on Patent Systems
between the US and Japan (IV)**

— Obviousness —

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Articles

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CONTENTS

PREFACE

I. BUSINESS WORLD

1. Object of the Patent System
2. Mutual Agreement
3. At Negotiation
 - (1) Novelty
 - (2) Obviousness
4. "Obviousness" Particulars
 - (1) In the US
 - (2) In Japan
5. Approach to "Obviousness"
 - (1) Analog Approach
 - (2) Business Knowledge
6. Actual Settlement

II. PATENT OFFICE

1. Features
 - i) Digital Decision
 - ii) Insufficient Business Knowledge
 - iii) Result
 - iv) New Subject
2. Deregulation
3. Low Level of "Obviousness"
 - (1) "Novelty" Is Search Oriented
 - (2) Harmonization

CONCLUSION

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PREFACE

In the US, the so-called "obviousness" clause was introduced to U.S. Code, Title 35, Patents in 1952 as § 103 under the title of "Conditions for patentability; non-obvious subject matter" as follows:

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains" (underlines added by author).

Whereas, in Japan, the so-called "inventive step" clause was introduced to the Japanese Patent Law in 1960 as Article 29 (2) as follows,

"Where an invention could easily have been made, prior to the filing of the patent application, by a person with ordinary skill in the art to which the invention pertains, on the basis of an invention or inventions referred to in any of the paragraphs of subsection (1), a patent shall not be granted for such an invention notwithstanding subsection (1)" (underline added by author).

There are some differences of the words and expressions between the provision itself of USC 35 §103 and of Japanese Patent law Article 29 (2), the former using "obvious", the latter using "easily".

But, considering that the "Detailed Discussions on the Japanese IP Laws" (edited by the Japanese Patent Office) uses "inventive step", and further the PCT Preliminary Examination Report issued by the PCT Preliminary Examination Authorities of the United State Patent and Trade Mark Office (USPTO) and the Japanese Patent Office (JPO) also use "inventive step", it

appears that there would not be much difference in substance therebetween.

However, when practicing the examination procedures both at USPTO and JPO, we consider that the examination standard of "obviousness" and "inventive step" is quite different therebetween, and is not so high in the former and is high in the latter.

I would like to analyze how the Patent System was and is now being implemented with such different criteria in both countries.

I. BUSINESS WORLD

1. Object of the Patent System

What is the final object of the patent system? It is not to obtain a patent, but to run a business well and to earn a profit by working exclusively the patented invention. Commercially, the better the invention is, the more persons, other than the inventor, would also wish to work the invention, and consequently those persons try many different ways to do so without infringing the patent. For example (1) finding a good prior art to nullify the patent, (2) finding an interpretation so as not to infringe the patent, or (3) to change his model therefor, and so on, and finally if not, they negotiate with the patentee for a license. During negotiations, both parties would usually hold very detailed discussions, parallel with pursuing other measures like litigation.

But, usually they come to a mutual agreement to settle such disputes therebetween including a license (or cross license) after difficult negotiations, as the following case shows.

2. Mutual Agreement

According to the press release on March 25, 1999, Ericsson and Qualcomm reached an agreement as to a global CDMA

(Code Division Multiple Access), points of which are to enter into cross license for their patents and to settle the existing litigation therebetween.

International mobile telecommunication is one of the most promising technologies and business, and Ericsson (headquartered in Stockholm) and Qualcomm (USA), which are two big companies in the world in that field, have had detailed discussions as to the patents which they have.

As is often the case in the history of patent matters, two such companies, after detailed discussion, come to a mutual agreement, settling the existing litigation therebetween. In the mature intellectual property field, the companies or persons concerned fully recognized a well-worn saying to the effect that a bad settlement is often preferable to even the most successful litigation.

3. At Negotiation

As in all negotiations, firstly, the persons concerned evaluate again all the related patents owned by both parties for a mutual agreement, just as the Patent Office does. There are two fundamental criteria therefor.

i) Novelty

At first, "novelty" would be discussed, which is the very essential criterion for patenting, and was stipulated in the Patent Law from the very beginning in 1790 in the US, and in 1887 in Japan. Further, the same can be approached by a purely scientific method (see below), and hence there would be no big deviation of evaluations among persons who evaluate the criterion of "novelty" including the Examiners. In that sense, "novelty" can be left to the Patent Office.

Therefore, the only case in which "novelty" should be discussed at the negotiations is when new prior art is found.

ii) Obviousness

Secondly, the persons involved should attend to the most difficult criterion: "obviousness". As mentioned above, § 103 and Article 29(2) were introduced to the Patent Law much later than the start thereof. Let's see the particulars thereof in both countries.

4. "Obviousness" Particulars

(1) In the US

It is said that the first case in the US which involved this criterion was the Hochkiss case¹ in 1851. After that many discussions were made, and many Courts Decisions were rendered including the so-called Flash case², and § 103 was introduced in 1952 to settle the dispute about the criterion. But, still the criterion had not been stabilized, so in 1966 the Supreme Court issued a standard for the criterion as follows in the Decision on the Graham case³, which is also cited in the MPEP of the USPTO.⁴

"Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against the background, the obviousness or non-obviousness of the subject matter is determined."

However, as the Decision itself says, as follows, after the above standard of the criterion, the "obviousness" is still a difficult criterion:

"This is not to say, however, that there will not be difficulties in applying the non-obviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context."

In connection with it, I can remember the famous novel "ANNA KARENINA" written by Leo Tolstoi, which starts with the following phrase:

"All happy families resemble each other, but all unhappy families have their own circumstances and features of their unhappiness."

(2) In Japan

Whereas, in Japan, Article 29(2) was introduced in 1960, and the JPO explains the same in "Detailed Discussions on the Japanese IP Laws" as follows:

"Even under the old Law, such inventions as referred to here had not been patented, and hence this Article is only provided to clear the actual problem on practice."

On the other hand, it tried to issue the "Examination Guideline" on "inventive step" along with many other subjects already issued such as "lens", "alloy", "telephone system", "novelty", "specification" so on, and after discussing for many years, finally it issued in 1972 "Method for determining the inventive step of the invention" only citing three approaches therefor with the following comments;

"We have concluded that it is quite difficult to establish an examination guideline, which can be used uniformly in the Examining Department and could be in line with an actual practice; and further even if the guideline were established after overcoming such difficulty which approves and covers almost all the present procedures, it could not be a reference to the actual practice, since it might be very vague compared with the actual practice."

Then, in 1973, the new "Examination Guideline" was issued, and it says as follows on this subject,

"(1) Whether or not a claimed invention has inventive step is determined by the reasoning that a person skilled in the art could have easily arrived at a claimed invention based on cited inventions, while precisely comprehending the state of the art

in the field to which the present invention pertains at the time of filing.

(2) Reasoning is made by comparing a claimed invention and a cited invention, and clarifying the identity and the difference in constituent features, chiefly from the point-of-view of whether a prime cited invention or other cited inventions (including well-known or commonly used art) disclose a cause or motivation for a person skilled in the art to arrive at a claimed invention. Advantageous effects over a cited invention are taken into consideration as facts to support to affirmatively infer the inventive step."

It is quite similar to the Guideline in the US Graham case with only addition of the word "a cause or a motivation" (which has been widely used in the US since 1970'), and "advantageous effects"⁵. Neither has a clear guideline been established in Japan on this subject.

5. Approach to "Obviousness"

Compared with "novelty", why is "obviousness" so difficult? There are two main differences therebetween.

i) the former is digital, but the latter is analog,

ii) the former can be handled in a purely scientific way, but the latter can not.

(1) Analog Approach

Comparing the invention compared with prior art, the "novelty" can be evaluated in a simple digital way, that is, are there any differences therebetween the invention and prior art or not? (YES or NO). This can be done by comparing, element by element, the invention and the prior art, which can be done by a purely scientific method. Further, there is no problem to reject the invention lacking novelty.

However, if any differences were found therebetween, how should these differences be evaluated for patenting, since

they are not of a uniform shape but many vary in amount and type. Namely, the differences would vary from little to large, and if evaluated, they spread from nearly 0 to almost 100 (0 means no novelty) just as a school examination, or ranks 5,4,3,2,1, or A,B,C depending upon the amount and type of the differences. That is, it should be an analog evaluation.

(2) Business Knowledge

Further, for the such analog evaluation, the persons should always consider the aim of the Patent System, that is, whether the differences would satisfy the aim⁶, or how much they would contribute thereto. For that purpose, the technological matters are not sufficient, but also various other factors, such as business problems, whether it is marketable, profitable or promising or so on, should be evaluated. There should be many views and opinions as to the above items.

Therefore, the result of the evaluation would greatly deviate depending upon the career or position of a person, or company to company or nation to nation, just as the Graham case⁷ says, "What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context."

6. Actual Settlement

Consequently, both parties might ask many experts for their opinions in favor of their own party, and try to reach agreement therebetween, and thereafter summarize the total points of all patents concerned. Then, finally they reach an agreement including a license (or cross license) therebetween.

If the parties are different, the same patent would be evaluated differently, and the conditions of the agreement would be different. In that sense, "obviousness" is quite suited to the *inter partes* procedure,

whereas, "novelty" can be handled by the *ex parte* procedure.

Of course, during the negotiation, they may file an Invalidation Appeal⁸, or go to the Arbitration procedure⁹, or they may file litigation to the Court. Further in Japan they may ask the opinion of the JPO with respect to the technical scope thereof¹⁰. However, in many cases, finally, as in the Ericsson and Qualcomm cases, agreement would be reached therebetween.

II. PATENT OFFICE

1. Features

Now, I would like to refer to the Patent Office.

As mentioned above, "novelty" can be handled by the "ex parte" procedure and by a purely scientific method, and hence the same can be left entirely to the Patent Office. But, how about "obviousness"? It is quite suited to the *inter partes* procedure, and it requires other factors such as the business knowledge, so are there any problems when the Patent Office handles the same?

i) Digital Decision

Firstly, the problem comes from the fact that the Patent Office makes a digital decision without any comments on analog value. The point of evaluation would spread, as mentioned above, from 0 to almost 100. Its distribution is on the Gaussian distribution curve, as shown in Figs. 1 and 2, the highest number of the cases at about point 50 or 60 (average point). In order to make a digital decision (patented or not), the Examiner should draw a threshold line on the distribution curve, above which applications are patented, and below which they are not patented, as shown in Figs. 1 and 2 (the former represents the US, the latter Japan)¹¹.

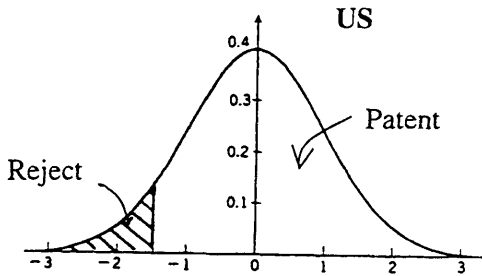


Fig. 1

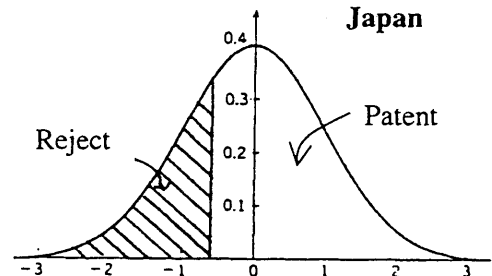


Fig. 2

ii) Insufficient Business Knowledge

Another problem is, as mentioned above, the "business problems" are closely related to evaluating "obviousness", but the Patent Office is usually less concerned with such business matters (including actual working technologies), although it is rich in academic knowledge.

iii) Result

Consequently, one of the most serious problems for the applicant is that the inventions below the threshold line are all refused (even if they have some value), and would have no chance to be discussed at the negotiations¹². The higher the threshold (the criterion of obviousness), the more inventions are refused, as shown in Fig. 2; Conversely, the fewer inventions refused, we get the situation as shown in Fig. 1

Furthermore, under the high level criterion, there would be not a few inventions among such crossed out inventions, which are important for the applicant from the business point of view, since it is often said that a good patent can be found among relatively low level technologies, and further, it is also often happened that the good invention is proved to be so at a later stage (even after the examination), since an accurate forecast of technologies is very difficult¹³.

Moreover, it is not easy for the Examiners to determine where the line should lie, and it is more difficult to apply it uni-

formly, since business knowledge is inevitable therefor but examiners are not well acquainted with business.

iv) New Subject

It is an analogous situation for new subjects, such as computer software related inventions, biological inventions and business model inventions, although they relate to the definition of "invention" itself as well as obviousness.

If they were decisively not patented under a high examination standard at an early stage, they would have no chance to be restored even if the standard were made more lenient later; but in a reverse situation the patents could be nullified.

2. Deregulation

This subject can also be addressed from the point-of-view of deregulation.

Deregulation had been urged to the Japanese Government from abroad for many years to lessen the so-called *gyousei-shidou* (administrative guidance). At present, however, it is emphasized even at home by saying that the future industry and economy of Japan should be independent from the strong bureaucracy, although it may pose a big burden on the private persons concerned.

In the patent field, although the "easily invented" clause itself is provided in the Patent Law, how to apply the criterion "inventive step" to each case is, as mentioned

above, so vague and difficult that the examiner's high criterion thereof means a strong *gyousei-shidou*.

On the other hand, if the criterion becomes low through deregulation, it seems that many patents would be issued, and private persons concerned (hereafter "the patent persons") should become very busy. Namely, (1) at the negotiations, many patents should be discussed, and (2) many applications would be requested to be filed, since low level inventions are patented.

Now, the patent persons' role should become very important, since their ability with wide and rich knowledge (not only on the scientific one but also many business factors) would lead to tough negotiation on many patents to a good end, and further such ability would lead, rather, to a reduction in the actual number of patent applications. Because, to obtain a strong patent, a good specification should be prepared at a high cost, and hence within the limited budget, they should correctly evaluate all the requests and select limited promising inventions and focus on them.

Furthermore, such able patent persons are particularly needed by entrepreneurs of venture business, which have good technology but not sufficient manpower, facilities or money. They can evaluate the technology from various points of view (technologically and from a business point of view, etc.), and advise how to run the business, including how to protect the technology by obtaining patents. Otherwise, it would be easily imitated by others including big companies.

In this connection, I am reminded of an Editorial in the Asahi Newspaper (August 18, 1999), which cites saying of Mr. Jaguchi¹⁴ as follows,

"For success, not only should the entrepreneur running a venture business have confidence in his technology, but also he should be advised by other persons with an

objective opinion for the future of the technology, and he needs the know-how to develop the market and to obtain a patent to avoid seizure thereof by big companies." (underline added by author)

3. Low level of "Obviousness"

Taking account the above considerations, if the Patent Office does not apply the high criteria of "inventive step" for the examination, and leaves much work to others, as in the US, the following additional results would be seen;

(1) "Novelty" Is Search Oriented

The Patent Office should think much more of "novelty" examination, and for that purpose the "searching facilities" become much more important. Since, if the "novelty" were the only criterion for patenting, the Examiner can not stop his search until he finds identically the same invention, whereas under the high "inventive step" criterion, the Examiner can stop his search when he finds similar prior art and renders an Office Action as being obvious. Therefore, we can say that the lower the level of "inventive step", the more important the searching facilities.

Further, of course, the cost is extremely high to perfect the search facilities, in particular, to include all the prior art issued all over the world in many languages, and consequently the work is quite suited to the Patent Office, with international cooperation among Patent Offices, and by using high level information technology (IT).

(2) Harmonization

Further, since the "novelty" can be handled principally by the scientific approach, there would be very little difference of thought thereon among the examiners in the world.

Further, if the "obviousness" criterion is not high, the business factors will not affect examination so much and "harmonization of examination" could be attained much easier than if the criterion is very high.

Then, afterwards, in each country's litigation, the "obviousness" may be discussed to a full scale based upon its own circumstances and situations.

CONCLUSION

Summarizing the above considerations, the following comparison can be shown with a very simplified list between "novelty" and "obviousness".

<u>Novelty</u>	<u>Obviousness</u>
Digital	Analog
Science	Business
Ex parte	Inter partes
Searching	Reasoning
Harmonization easy	Harmonization difficult
Administration suited	Deregulation suited
↓	↓
Patent Office	Business World and Court

Then, it can be said that the patent circle (including business world, the Court and the Patent Office) may adopt a Patent System in which the Patent Office principally attends to the "novelty" and applies a low level criterion of "obviousness" by the *ex parte* procedure, while the Business World and the Court attend to the "obviousness" to a full scale by the *inter partes* procedure.

On the other hand, the Patent Office tries hard to complete the searching facilities in cooperation with other Offices in the world by using high level information technology (IT).

It is not clear to what extent this story can be applied to the present US Patent System, but even in Japan, where it has been said that the level of "inventive step" is the highest in the world, a movement can be seen toward the direction as mentioned above.

Notes

1. Hochkiss v. Greenwood, 52 U.S. 248 (1851)
2. Cuno Engineering Corp. v. Automatic Device Corp., 314 U.S. 84 (1941); in this case the Supreme Court required very high standard for patentability as, "The new device, however useful it may be, must reveal the flash of creative genius, not merely the skill of the calling." So, § 103 provides that "Patentability shall not be negated by the manner in which the invention was made." (Underline author added.)
3. Graham v. John Deere Co., 383 U.S.1 (1966)
4. MPEP 706.02(m)
5. Refer to my Article "Comparative Study on Patent Systems between the US and Japan II" AIPPI Journal, January (1997)
6. The purpose of the Patent System is, "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." (The US Constitutional Provision Art. 1, sec. 8); and "to encourage inventions by promoting their protection and utilization so as to contribute to the development of industry." (The Japanese Patent Law, Art. 1)
7. *ibid.* 4(1)³
8. An invalidation appeal should be filed at the Court in the US, but at the Patent Office in Japan. Considering the "inter partes" pro-

- cedure and the efficiency thereof (usually an infringement appeal is accompanied at the Court), it is said in Japan that the US style might be introduced, in addition to the Japanese style.
9. In 1998, in Japan, the Japan Federation of Bar Associations and Japan Patent Attorneys Association jointly established the IP Arbitration Center.
 10. Japanese Patent Law Article 71.
 11. Good use of the "multiple claim system" would allow the digital procedure to approach the analog procedure, to some extent.
 12. Of course, an appeal to the Court may be filed against the Board of appeal decision, but at least in Japan, it is not easy to reverse the decision, in particular as to the "inventive step".
 13. In that sense, the early examination is not so good for the applicant under the high level "inventive step" examination, since promising inventions (in hindsight) would have been refused at an early stage of examination.
 14. Mr. Jaguchi is a venture business consultant working with a patent firm.