

Discussion over Patentable Subject Matter in Japan

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1. Introduction

Compared to the circumstances in the United States, in which the Federal Circuit recently rendered an en banc decision *In re Bilski*¹, circumstances surrounding patentable subject matter in Japan seem rather calm. Nevertheless, there have been some discussion points over the subject matter eligibility in Japan. In this paper basic doctrine and current situation about the issue are explained as below.

2. Relevant Provisions in Japanese Patent Act

There are some important provisions in Japanese Patent Act for understanding patentable subject matter.

At first, the Article 1 of the Patent Act provides that the subject to be protected by the Patent Act is “inventions”, as follows:

Article 1 (Purpose)

The purpose of this Act is, through the protection and the utilization of inventions, to encourage inventions, and thereby to contribute to the development of industry.

Then, the Article 2 defines the term “inventions”², as follows:

Article 2 (Definition)

(1) “Invention” in this Act means creation of technical ideas of a high level which utilizes law of nature.

Further the Article 29 provides that only industrially applicable inventions are patentable.

Article 29

An inventor of industrially applicable inventions may be entitled to

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¹ *In re Bilski*, 545 F.3d 943 (Fed.Cir.2008)

² The definition is said to be derived from doctrine of Josef Kohler (Germany). Katsuya Tamai *Concept of “Invention” - Especially in relation to the inventiveness -*, Monya Nobuo kyo-ju kanreki-kinen chitekizaisanhau no gendaitekikadai [Commemorating papers for 60th birthday of Professor Nobuo Monya, Current issues of Intellectual Property]139-166 (2006)

obtain a patent for the said invention...”

As seen above, the Japanese Patent Act clearly shows the definition of the invention, although it is rare for Patent Acts. It also stipulates that industrial applicability is needed to obtain a patent.

3. What are required to be an “invention”?

(1) How to identify whether or not “creation of technical ideas utilizing a law of nature”

As stated above, in Japanese Patent Act, “invention” is defined as “creation of technical ideas of a high level which utilizes law of nature”. “A high level” is said to be an element to distinguish patents from utility models³, so it is important to focus on the element of “creation of technical ideas which utilizes law of nature” to find whether a claimed matter can be qualified as an “invention”. Followings are categories not to be deemed as “invention”, because they do not meet the requirement of “creation of technical ideas utilizing a law of nature”.⁴

- (i) A law of nature as such
- (ii) Mere discoveries nothing to do with creations
- (iii) Those contrary to a law of nature
- (iv) Those which do not utilize a law of nature
- (v) Those not deemed as technical ideas
- (vi) Those which clearly impossible to solve the problem by any means presented in a claim

(2) Explanation about important categories

Discoveries of natural products like mineral ore or natural phenomenon are deemed as non-patentable subject matter, because an inventor does not consciously create any technical idea (Category (ii)). On the other hand, even if things as such exist in nature but there need to be isolated artificially from their surroundings using some technique, then those things are deemed as creations (ex. Microorganisms or chemical substances).

³ Japan Patent Office, *Kogyo- shoyûken- hou chikujo-kaisetsu* [Article-by article Commentary for industrial property right], 22 (Hatsumei-kyokai 16th ed., 2000)

⁴ Japan Patent Office, Examination Guidelines Part II, Capt.1, “*Industrially Applicable Inventions*”,

Category (iv) listed above is rather controversial. The Examination Guidelines describes that

if claimed inventions are relevant to any laws as such other than a law of nature (e.g. economic laws), man-arranged rules (e.g. a rule for playing a game as such), mathematical methods or mental activities, or utilization just thereof (e.g. methods for doing business as such), these inventions are not considered to be ‘invention’, because they do not utilize a law of nature.

Some old decisions give examples, which were not deemed as “industrial invention stipulated in Article 1 of Patent Act”. In a decision regarding an invention of “preparation of code language for telegram”⁵, the Supreme Court said that

the preparation per se is technically sophisticated, but it is prepared without any kind of machine....in that sense, the invention does not deserve to be granted as an industrial invention.

Also there is an old Tokyo High Court decision, which was related to an invention of advertising method using utility poles⁶. The invention is a method comprising the steps of; forming groups A, B, C, and D, each of which includes a certain same number of poles, placing a holding frame on each post in order to present advertisement board, and changing place of the advertisement boards in each group in a certain period of time so as to circulate the advertisement boards on the poles. The Tokyo High Court held that

In light of the contents and purpose of the present invention, the advertising method of the present invention should be understood that the advertising method to increase the advertisement effects by circulating advertisement in a certain period and for that purpose, groups of utility poles and advertisement boards, also holding frame are used. However, no power of nature was used for circulating advertisement boards. In that sense, the present invention does not constitute the industrial invention defined in the Article 1 of Patent Act.”

⁵ Decision on April 30, 1953 by the first petty court of the Supreme Court (vol.7, No.4, Minshyû 461; vol.4; No.4, Gyôshyû, 910)

⁶ Decision on December 25, 1956 by the Tokyo High Court (vol.7, No.12, Gyôshyû, 3157.)

In order to determine whether the law of nature is used in a claimed “invention,” the Examination Guidelines mentions the following 3 points.

- Even if a part of matters defining an invention stated in a claim utilizes a law of nature, it is understood that the claimed invention considered as a whole does not utilize a law of nature, the claimed invention is deemed as not utilizing a law of nature.
- On the contrary, even if a part of matters defining an invention stated in a claim does not utilize a law of nature, it is understood that the claimed invention as a whole utilizes a law of nature, the claimed invention is deemed as utilizing a law of nature.
- As stated above, the characteristic of the technology should be taken into account in judging whether a claimed invention as a whole utilizes a law of nature.

However, the Examination Guideline does not give clear explanation on how to understand whether a claimed invention as a whole utilizes a law of nature. Recent lawsuits and discussions over subject matter give explanations on this point (Those cases are shown in following Section 5.).

Category (v) is also important. According to the Examination Guidelines, “those not deemed as technical ideas” includes followings,

- (a) Personal skill (which is acquired through personal experience and cannot be shared with others as a knowledge due to lack of objectivity),
- (b) Mere presentation of information (where the feature resides solely in the content of the information, and the main object is to present information)
- (c) Aesthetic creations (ex. paintings, carvings).

Especially, category (b) shown above is sometimes difficult to understand. The Examination Guidelines says,

Written manual for instructing an operation of a machine or directing a use of a chemical substance, audio compact disc (where the feature resides solely in music recorded thereon), image data taken with a digital camera, program of an athletic meeting made by a word processor, or computer program listings (mere representation of program codes by means of printing them on paper, displaying them on a screen, etc.) “ are deemed as “mere presentation of information.

Before the Examination Guidelines were amended in 2000, computer program had been included as an example of “mere presentation of information” and deemed as non

patentable subject matter. However, now, computer programs are clearly patentable subject matter. In the Patent Act, “invention of program or the like” is now treated as a kind of “invention of product”.

4. Computer programs and its related inventions

Computer programs are not categorically removed from patentable subject matters. However, an invention directed to a computer program is not always a patentable subject matter.

As required by the Japanese Patent Law, a software-related invention is also required to be “creation of technical ideas utilizing a law of nature. The Examination Guidelines for “Computer software-related inventions”⁷ explains that in order for those software-related inventions to be “creation of technical ideas utilizing a law of nature”, information processing by software should be concretely realized by using hardware resources. In other words, in case where (a) information processing equipment (machine) or its operational method is prepared so as to realize arithmetic operation or manipulation of information based on the purpose of the invention and (b) concrete means in which software and hardware resources work closely together are utilized in the equipment of the method, claimed invention is deemed as "creation of technical ideas which utilize a law of nature."

For example, an invention of “a computer to calculate the minimum value of formula $y=F(x)$ in the range of $a \leq x \leq b$ ” can not to be considered as “creation of technical ideas utilizing a law of nature”.⁸ Because, even though the word “a computer” appears in the claim, the claim does not require that the software for information processing to calculate the minimum value of formula $y=F(x)$ and the computer work closely together. In that sense, the claimed invention of the example is not deemed as "creation of technical ideas utilizing a law of nature", which means that it does not constitute “a statutory invention,” since the information processing by software is not concretely realized by using hardware resources.

However, this idea to find the eligibility based on “whether information processing by software is concretely realized by using hardware resources or not” is still

⁷ Japan Patent Office, Examination Guidelines, Part VII, Capt.1, *Computer Software-related Inventions*

⁸ This example is shown in the Examination Guidelines in the part of the footnote 7.

not very helpful and it is sometimes criticized.⁹ Recent court decisions give some help to clarify the issue.

5. Recent decisions relating to patentable subject matter.

(1) “Balance sheet” case¹⁰

This is an infringement case regarding a utility model right. A utility model is distinguished from a patent, as mentioned in section 3, in that the former does not need a requirement of “a high level” of creation. The right directed to a balance sheet. In this case, the defendant argued that the utility model right was invalid on the ground that the claimed utility model was an ineligible subject matter. The utility model claims a balance sheet form wherein specific elements are arranged in a specific manner so that even a lay person can easily understand financial standings of a corporation.

The Tokyo District Court ruled that it was not eligible subject matter. The court first explained general idea as to how to find "creation of technical ideas utilizing a law of nature" as follows.

...Even if it is a creation of technical ideas, the ideas mainly utilizes principles or rules mediated by human mental activity, principles or rules of social science, or man-arranged rules, utility model rights should not be granted. (In case where creation of technical ideas does not utilize law of nature, it is clear that it is not utility model-eligible, but in case where creation of technical ideas contains utilizes law of nature, but technically trivial, it is also not eligible to grant utility model right.)

Based on the above-mentioned rule, the court found that the claimed balance sheet is not a statutory utility model stating that

Actually, the “lengthwise or breadthwise” arrangement of columns for “profit and loss”, “sleeping rent”, sales and purchase” and “floating assets” contributes to make the balance sheet more easy-to-read, but such an effect is not to be understood a feature of this utility model...and does not have useful technical meaning.

⁹ The first group of software committee of JPAA, *Current issues on the present patent act regarding the protection of software-related inventions*, vol.56, No.2 Patent, 4-16,

¹⁰ Decision on January 20, 2003 by the Tokyo District Court (vol. 1809, Hanrei-jihô, 3; vol. 1114, Hanrei-times, 145)

In this case the right holder argued that the balance sheet in the present case should be granted as utility model right in light of the fact that so called “business model” is also a utility model-eligible subject matter. However, the court rejected the argument because the fact that computer software may be considered as an eligible utility model under specific circumstance is irrelevant for the present case, stating as following.

The reason why a business method realized by using computer software related technique may be utility model-eligible is that a creation utilizing computer software may be evaluated as “creation of technical ideas utilizing a law of nature” regulated in the Article 2 (1) in the Patent Act.

(2) “Point management method” case¹¹

The case is regarding a patent application directed to a method for managing points obtained through campaign by using point account database. The method consists of two steps, step for receiving transmitted information through network and step for adding a certain points to the accumulated points stored in the database. The Board of Appeals of JPO found that such a method can not be deemed as an “invention” described in the Article 2(1) of the Patent Act and rejected the patent application.

The applicant of the patent filed a lawsuit with the IP High Court seeking cancellation of the JPO decision arguing that it was impossible for human-beings to directly receive transmitted information through network and it was only realized by computer.

The court upheld the JPO’s rejection of the patent application. In the decision the court found that the claimed method was not realized by concrete means in which software and hardware work close together and was not deemed patent-eligible method, stating as follows:

In the invention of claim 11, it is not limited that only computer carries out following acts; “storing (accumulated points)”, “receiving”, “adding” and so on. On the other hand human-beings can also carry out those acts.

In the claim 11, the terms “database” and “network” are described.

¹¹ Decision on September 26, 2006 by the Intellectual Property High Court (Case No. 2005 (ghô-ke) 10698)

However, both “database” and “network” do not limit their user to computers, because “database” just means assembly of data which were systematically accumulated. Therefore, from the description of the claim 11,...it can not be understood that information processing for the purpose of the invention is realized by concrete means in which software is read by computer, and the software and hardware work close together.

(3) “Computer-based interactive dental restoration system” case¹²

This case is a patent application regarding a computer-based interactive dental restoration system. According to the claim, the system contains a network server having a database, a communications network and one or more computers for accessing information stored at the database over the communications network and displaying the information in a humanly readable format. However, the system also includes “a means to identifying a dental restoration need” and “a means to formulate an initial treatment plan”. The Board of Appeals of JPO found that it is reasonable to reject the patent application. The reason why are the two means are to be understood as a kind of mental activities of a dentist, although the claim does not mention that a dentist makes such judgment or formulates treatment plan. The IP high court overturned the JPO decision. The court introduced rather new approach to find patentable subject matter by considering the invention as a whole rather than checking element by element.

An “invention” as patentable subject matter means “creation of technical ideas utilizing a law of nature” and accomplished through following steps; finding a problem to be solved, introducing technical means to solve the problem and conforming a certain effect realized by the technical means. In that sense, human mental activity per se is not deemed as an “invention” and it can not be patentable subject matter. However, the eligibility can not be denied only based on the test whether it contains mental activity or it relates to mental activity. ...In case where some kind of technical means are described in the claim but by taking all account of the claimed factors, it is understood that the heart of the invention directs to the mental activity per se, it can not be an “invention” regulated in the Article 2(1) of the Patent Act. On the other hand, even if in case where the claim includes mental activity of human-beings or relates to the mental activity, but, it is understood that the heart of the invention

¹² Decision on June 24, 2008 by the Intellectual Property High Court (Case No. 2007 (ghô-ke) 10369)

directs to provide technical means which supports or replaces mental activity of human-beings, then the it should not be exclude from an “invention” regulated in the Article 2(1) of the Patent Act.

By applying rather new approach, the court found the claimed interactive dental restoration system as patentable subject. The court found that even if the claimed system contained “a means to identifying a dental restoration need” and “a means to formulate initial treatment plan” which are partly realized by a dentist, the claimed invention as a whole provided computer based technical means to support dental restoration.

(4) “Method for consulting bilingual dictionary of English and other language having a phoneme index multi-element matrix structure” case.¹³

This case relates to a very unique method to consulting a dictionary. Through this method, even non-native English speaker can easily find spellings of a word based on the phonetic characteristics of the word and find the meaning of the targeted word. The claim mentions that this method is suitable for data processing by computer, but does not require any use of computer. In the dictionary used for the method, following four elements of one word, "consonant appeared in the word", “accent of vocal and consonant (phonetic symbol) ” “spelling” and "translation" form a horizontal row and words are listed in alphabetic order of "consonant appeared in the word.” The user of the dictionary at first phonetically recognizes consonants which appeared in the targeted word, and finds the same combination of consonants in the dictionary. If there are several results, then the user find the right word using other information, namely “accent of vocal and consonant (phonetic symbol) ”and “spelling”.

The Board of Appeals of JPO found that the method was deemed as human mental activity or man-arranged rule and did not utilize law of nature. However, the IP high court overruled the JPO decision. The court showed criteria to find an “invention” and said

...even if a creation of technical ideas aimed at solving a problem includes human mental activity, decision making or such kind of activity, it is inappropriate to deny being an “invention” of Article 2(1) of the Patent Act only for that reason. Upon taking all account of claim as a whole and specification, if creation of technical ideas

¹³ Decision on August 26, 2008 by the Intellectual Property High Court (Case No. 2008 (ghô-ke) 10001)

utilizing law of nature is indicated as main means to solve the problem, [the claimed invention] is deemed as an “invention” of Article 2(1) of the Patent Act.

Based on the facts of this case, the court ruled that law of nature was utilized in the claimed method. The court explained the reasons for the conclusion as follows.

Claimed invention utilizes native endowment as human of recognizing sound, especially high capability to recognize consonants. And through this feature, the invention realizes such an effect steadily that anyone who does not know spelling of an English word can find the meanings of the word. In that sense, it is considered that this invention shows “creation of technical ideas utilizing law of nature” as a means to solve the technical problem.

6. Medical surgery, treatment and diagnosis for human beings

As explained above, industrial applicability is required for a patentable invention in Japan (Article 29 of the Patent Act). Medical surgery, treatment and diagnosis for human beings are not considered as industrially applicable invention, because medical acts of doctors are not considered to belong to any kind of industry.¹⁴ However, a method for operating a medical device is considered to be a patentable subject matter, unless it includes an action of a medical doctor or the device influences on a human body.

A method for manufacturing a medicinal product (e.g., blood preparation, vaccine, genetically modified preparation) or medical material (e.g., an artificial substitute or alternative for a part of the human body, such as an artificial bone, a cultured skin sheet, or the like) by utilizing raw material collected from a human being is not qualified to be “medical surgery, treatment or diagnosis for human beings,” even if through the method the material collected from a person is returned to the same person. Before the examination guidelines were amended in 2003, such kind of method deemed as also a kind of “medical surgery, treatment or diagnosis for human beings”.

Further, a treatment for contraception and a delivery are considered to be a kind of “medical surgery, treatment and diagnosis for human beings”.

There has been a long discussion how to understand the relationship between

¹⁴ However, medical surgery, treatment and diagnosis for animal other than human beings are deemed as industrially applicable invention.

“industry” and “medical acts by doctors”. There was a Tokyo High Court decision¹⁵ on the point. The patent at issue in the case relates to a method to display both image of surgery area which was taken in advance and information about position of surgical instrument at the time of surgery simultaneously. The JPO concluded that the method corresponded to a medical diagnosis for human beings and therefore the invention was not industrially applicable.

The applicant of the patent appealed to the Tokyo High Court, arguing that it was unreasonable to consider that only medical acts of doctors are excluded from “industry”. However, the court found that a patent system under which doctors may infringe a patent was not appropriate and there is no provision to avoid such problem, it is reasonable to understand that medical acts per se should not to be patented under the present Patent Act.

Method for administering drug for treatment is deemed also a kind of treatment and not to be patentable. However, if the invention is present as an invention of drug per se which is characterized by a certain administration, then such an invention of drug can be industrially applicable.

7. Discussion

As described in section 5. above, recent cases on the issue of patentable subject matter include disputes over whether the claimed invention is considered as “creation of technical ideas utilizing law of nature”. Previously, as shown in the cases 5.(1) and 5.(2), the High Court applied rather rigid criteria that is almost the same as described in the Examination Guidelines to determine the issue. On the other hand, in the decisions rendered in 2008, there seems to be a trend that the courts try to avoid such a rigid test. In the decision of “Computer-based interactive dental restoration system” (shown in 5.(3) above), a new criteria to find the eligibility through a heart of invention. And in the decision of “Method for consulting bilingual dictionary of English...” (shown in 5.(4) above), the court introduced a new test to find whether “creation of technical ideas utilizing law of nature” is shown as main means to solve the problem. Further, the court indicated that not only claim as a whole, but also specification should be taken into consideration, in case where “utilizing law of nature” is an issue. In both cases it seems that the IP High Court focuses on the nature of the invention which is determined by the claim (and specification) and trying to find more substantially whether it is an

¹⁵ Decision on April 11, 2002 by the Tokyo High Court (vol.1828, Hanrei-jihô, 99)

“invention” described in the Article 2(1) of the Patent Act or not. If it is the case, it should be a tendency welcome by patentees.

On the other hand, with regard to “computer programs and its related inventions”, how to determine the patent-eligibility is still rather unclear. Especially the requirement that “information processing by software is concretely realized by using hardware resources” described in the Examination Guidelines sometimes appears in judgments, however the criteria of “concretely realized” is still vague. Same as the issue of “utilizing law of nature“, the IP High Court may show new criteria for the point in the future.

8. Conclusion

It seems that the IP High Court now tries to find better and clear criteria to judge whether a claimed invention is an “invention” under the Japanese Patent Act or not. The tendency may affect on JPO judgments and lead to change the criteria implemented in the JPO. Also, we hope that more judgments on patent-eligibility of “computer programs and its related inventions” will be rendered so that the criteria for the issue become clearer.