10 Strategic Drafting of Applications for U.S. Patents by Japanese Companies from an Enforcement Perspective

It has become more and more important for Japanese companies to obtain patents in Europe and the United States, in order to keep competitive in the world. In the United States in particular, the validity and the scope of the right of a patent is judged by a court, so in order to make use of a patent right, one must not only register the right with the USPTO, but also be able to fully claim the right in court.

In this report, about 100 U.S. patents owned by Japanese companies were analyzed to study whether or not the descriptions of their patent claims and specifications would be sufficient for claiming due rights in court, and the points that should be noted upon filing were indicated.

As a result, various problems came to light, including the fact that the specifications had not been drafted with consideration given to the recent trend of the Court of Appeals for the Federal Circuit (CAFC) to interpret patent claims narrowly based on the descriptions of the specification, as well as the lack of effort to make the specification easy to understand for the jury and judges.

With the aim of remedying such problems, guidelines of the matters that should be described in the respective parts of a U.S. patent specification, and a checklist for drafting an application for a U.S. patent based on a Japanese original specification were created.

Ⅰ Background of the study

Every year, Japanese companies acquire approximately 30,000 patents in the United States, accounting for about 20% of the annual number of U.S. patents registered. Japanese companies acquire the highest number of patents in the United States among non-U.S. companies, far exceeding the 10,000 or so patents acquired by German companies, which boast the second largest number. In terms of enforcement, however, concerns have been reported as to Japanese companies' ability to successfully claim rights in U.S. courts based on their patents. These reports indicate the following points of concern:

(A) Are Japanese companies aware of the recent trend of the Court of Appeals for the Federal Circuit (CAFC) to make the narrowest possible interpretation of the scope of right from the matters stated in the specification, and do they make efforts to avoid drafting patents in such a way that makes the invention interpreted more narrowly than the literal patent claims?

(B) Do Japanese companies make efforts to make the technical content of the specification easy to understand for the jury and judges who would be in the position to read the specification in litigation?

To clarify the actual situation, approximately 100 U.S. patents owned by Japanese companies were selected, and empirical analysis was conducted on the problems of specification drafting indicated above. In addition, problems in the formality areas of specification drafting were analyzed on the basis of findings in the recent trend of case law, and countermeasures were considered.

Ⅱ Patent analysis method

1 Analyzed samples

A total of 98 patent samples were analyzed. Of these, 66 were recently issued U.S. patents of Japanese companies, and 32 were U.S. patents based on which Japanese companies brought infringement actions before federal district courts over the past few years.

With regard to their technical fields, 20 were in the chemical field, 41 were in the mechanical field, 23 were in the electric field, and 14 were in the software field.

2 Analysis method

The U.S. patent specifications, the corresponding Japanese specification if necessary, and also the status of the related applications were analyzed with respect to various points that should be noted upon filing a patent application in the United States.

Ⅲ Results of reviewing the specifications and patent claims

1 Overall results

The samples were categorized by the technical field, the filing route (PCT, the Paris Convention route, etc.), whether the patent was made subject to litigation in the United States, and other factors to study any differences in the results of the review. However, no characteristics were found by technical field, while no differences were found between patents that were made subject to

litigation and those that were not.

Problems that were pointed out for more than 30% of all samples extended to many areas as follows:

a) Improperly Listed Reference (lack of an appropriate information disclosure statement (IDS))
b) Abstract (use of language not contained in the patent claims; and inclusion of careless limiting expressions)
c) Background of the Invention (unnecessary inclusion of characteristics of the invention; failure to give an easy-to-understand explanation of the subject matter of the invention; lack of use of drawings for explaining prior art; and use of negative expressions for prior art)
d) Summary of Invention (excessively detailed description of the purpose of invention; and use of language not contained in the patent claims and language that limits the scope of the invention)
e) Brief Description of the Drawings (lack of express indication that the drawings merely show one working example of the invention)
f) Detailed Description (lack of description of the possibility of other constitutions of the invention)
g) Claims (using a single type of claim for describing the invention; improper antecedent basis, etc.)

In contrast, problems that were pointed out for less than 10% of all samples were only in two areas: Jepson claims; and lack of description of substituents, etc. in chemical specifications.

2 Analysis of the actual problematic cases and solutions

(1) Improperly Listed Reference

(i) Actual problematic cases and the impact on enforcement

These are cases in which the documents cited as prior art documents in the specification are not listed at the reference part on the front page of the Official Patent Gazette. In other words, the applicant is likely to have considered it sufficient to specify the published application numbers or the like of the prior art patents in the specification, and neglected submission of an information disclosure statement (IDS). However, such an explanation would be insufficient in many cases.

In the United States, the applicant is obligated to disclose all information "material to patentability" of the invention in the form of an IDS. There is a strict, established system to disclose information on prior art documents. If one neglects this disclosure obligation under this system, there would be a risk of not being able to enforce the patent in later infringement litigation on the ground of violation of the disclosure obligation.

(ii) Cause of the problem and the solution

The cause of this problem may be the misunderstanding of Japanese companies that the prior art documents cited in the specification do not need to be submitted as an IDS, but only the prior art documents not cited in the specification must be submitted as an IDS.

It is important to make sure to submit the prior documents cited in the specification as an IDS.

(2) Abstract

(i) Actual problematic cases and the impact on enforcement

Observed among the samples were: cases in which the description in the Abstract was narrower in scope than the patent claims; cases in which the Abstract included the purpose, advantageous effects, and use of the invention; and cases in which the Abstract described an invention of a content (category) different from the patent claims.

Although the Code of Federal Regulations (CFR) provides that the Abstract of a patent should not be used for interpreting the scope of the claims, the CAFC ruled a few years ago that the Abstract may serve as the basis for limiting the scope of the claims under certain conditions (the Hill-Rom decision).

It is not quite clear whether or not the Hill-Rom decision would be sufficient to generalize that "the description of the Abstract can become the basis for limiting interpretation of the claims." However, as long as there is the "possibility" for the Abstract to limit the interpretation of the claims, it would be necessary to avoid describing the Abstract in the way that has been pointed out in the review.

(ii) Cause of the problem and the solution

The major part of the cause would be that Japanese companies are not attaching sufficient importance to the Abstract in filing a U.S. patent application, and are using a direct translation of the abstract of the Japanese patent application when filing a U.S. application.

When drafting a U.S. patent specification, care must be taken to avoid including more-than-necessary, detailed information to avert any risks. The safest measure to this end would be to simply use the language of an independent claim (either in whole or in part) in 100 to 150 words.

(3) Background of the Invention

(i) Actual problematic cases and the impact on enforcement

① Such problems were observed as describing the characterizing portions of the invention or explaining the mode of operation or use of the invention that is not disclosed in the claims in the Field of the Invention.

The reviewed U.S. patent specifications included many cases that not only exemplified the field of technology, but also mentioned the key points of the "novelty and non-obviousness" of the invention. Since the Field of the Invention constitutes a part of the Background of the

Invention, the inventor could be regarded as acknowledging the fact that the characterizing portions of the invention had been publicly known, if the characteristic portions disclosed in the claims were included in the Field of the Invention.

② There were cases in which the description in the Background of the Invention was either excessively long and complicated (seven columns) or extremely simple without indicating any specific prior art.

Such excessively redundant, insufficient, or irregular description of background art hinders the examiner from gaining an appropriate understanding of the invention in the examination phase. Furthermore, it may make it difficult particularly for the jury (who are not technical experts) to understand the invention in the enforcement phase.

③ In some cases, the problems of the prior art were overly emphasized or negatively expressed in the Description of the Related Art; for example, stating "it is impossible to prevent a shock upon deceleration" for the conventional control system.

Such an assertive expression may invite a narrower interpretation that a technology would not fall under the scope of the invention unless it makes a notable improvement of this point in the prior art. This could be disadvantageous for claim interpretation in court proceedings.

(ii) Cause of the problem and the solution

① Providing an easy-to-understand explanation of the prior art (using drawings, etc.)

Background art of an invention should be described in the specification in a form that is easy to understand for those who are not skilled in the art. The importance of providing an "easy-to-understand" description is obvious when assuming a situation of having the judges as well as the jury chosen from the general public, who are not technical experts, understand the invention at the time of enforcement.

One of the means of providing an "easy-to-understand" explanation of the prior art in a field in which the structure of the invention can be illustrated by drawings would be to use drawings for explaining the prior art. A typical field would be the machine field. However, among the 41 samples in the machine field that were reviewed, "a lack of drawings for explaining the prior art" was pointed out for 28 samples, which accounted for the majority. Thus, more consideration is required in this respect.

② Problem in negatively expressing the prior art

This check item was selected from the concern that indication of the problems of the prior art could automatically lead to a narrower interpretation of the patent claims. Since the [Problem to be Solved] is usually described in a Japanese specification, the "problems of the prior art" are often described in the corresponding English language specification in some form.

In addition, by mentioning multiple problems of the prior art and asserting that they were problematic on the whole, it could invite a narrower interpretation such that a technology does not fall within the scope of the invention unless it makes improvements of all those problems over the prior art.

As a result of the review, the great majority of the patent samples were found to be using some negative expression for the prior art, such as frequent use of "impossible to" or "cannot."

Since even the matters mentioned as the purpose of the invention could become the basis of a narrower interpretation of the patent claims as discussed later, it is essential to express nothing else but the prior art.

(4) Summary of the Invention

(i) Actual problematic cases and the impact on enforcement

① As a result of the review, only about 60% of all samples managed to track the claims in describing the Summary of the Invention.

Recently, the CAFC is reported to have the tendency of interpreting the claims narrowly based on the individual descriptions of the specification. Therefore, if the descriptions of the Summary of the Invention (particularly the part on the constitution of the invention that corresponds to the claims) do not coincide with the language of the claims, those descriptions may well serve as the basis of a narrower interpretation of the claims.

② Most of the patent samples contained some description of the "purpose" of the invention, including those that indirectly mentioned the purpose, in the Summary of the Invention. Description of the purpose of the invention in the Summary of the Invention is liable to invite a narrower interpretation of the claims by the court.

(ii) Cause of the problem and the solution

① Problem of describing the purpose of the invention

In the case of a Japanese patent application, the story of the overall specification tends to be written based on the "purpose" (problem to be solved) in order to explain the invention. Thus, it is rather natural that such tendency also shows in the U.S. patent specifications of Japanese companies at present.

If the purpose of the invention were not described, the relationship between the prior art and the invention could become ambiguous in cases of certain technologies, and the specification may fail to win a sufficient understanding on the technical significance of the invention as a result. However, the tendency of excessively describing the "purpose" is a problem.

② Since description of the "purpose of the invention" is not required under the U.S. practice, such options as "not including any description of

the purpose of the invention" or "describing it as one of the effects of an embodiment of the invention," which were proposed by a U.S. patent firm this time, are very much worth consideration in order to eliminate the concern for a narrower interpretation. The specific approaches would be to originally exclude the purpose of the invention when filing the basic Japanese application or to exclude the relevant parts when translating the Japanese specification into English.

(5) Brief Description of Drawings

(i) Actual problematic cases and the impact on enforcement

Of the 98 samples reviewed, 28 samples were evaluated as using "expressions that would narrow the scope of the invention" in the Brief Description of Drawings, which was an unexpectedly large number.

Case 1: The Brief Description of Drawings included the expression, "...according to the present invention." This could invite a narrower interpretation in that the drawings indicate "the invention" instead of "an embodiment of the invention," and that any mode that is substantially different from the drawings would be outside the scope of the invention.

Case 2: The content of the Brief Description of Drawings lacked consistency. Specifically, it included multiple expressions clearly indicating that the explanation was about an embodiment, such as "...according to an (another) embodiment of the present invention" and multiple expressions that could be construed as an explanation of the invention itself, such as "...according to the present invention."

Although the attachment of drawings makes it easier for the reader to understand the content and characteristics of the invention in many cases, care must be taken in writing the Brief Description of Drawings, because it could become the basis for a narrower interpretation as in the examples above. In particular, the direct expression "the present invention..." would very likely be considered as a narrowing factor in claim interpretation.

(ii) Cause of the problem and the solution

The cause of the problem will be studied for the individual cases. In Case 1, the expression used in the corresponding Japanese specification was "hon-hatsumei ni kakaru (...zu dearu)" (drawings...relating to the present invention), and the direct translation of this expression was likely to have been used. In Case 2, the application had declared multiple priority claims, and when combining the content of the multiple Japanese specifications and drafting a Japanese specification as the basis for filing a U.S. application, the Japanese expressions were assumably inconsistent, and direct translation of that specification is likely to have resulted in such lack of consistency in the expressions.

In order to prevent the claimed invention from being limited to the mode expressed by the drawings, the fact that the drawings only illustrate one working example of the invention should be clearly indicated. This could usually be achieved by using the expression "embodiment" in the description of each drawing relating to the invention.

(6) Detailed Description

(i) Actual problematic cases and the impact on enforcement

① The description rules for a U.S. specification were not observed.

-The specification was not described in the U.S. style, but a direct translation of the specification of the Japanese application was likely to have been used for the filing in the United States.

-The headings that are usually used in U.S. specifications were not described.

In the two cases above, the U.S. specification was assumably drafted by translating the "Detailed Explanation of the Invention" in the Japanese specification as the "Detailed Description."

-"Best Mode for Carrying Out the Invention" was used as a subtitle in the specification.

This was because the direct translation of the fixed heading for a PCT application, "Best mode for carrying out the invention," was used as it is in the U.S. specification. However, one must note that the "best mode" under the PCT has a different legal meaning from the "best mode" in a U.S. application.

② The descriptions failed to broadly support the important technical characteristics.

-Essentially only one concrete example is described to support the broad claims.

-The one and only embodiment shown by the drawings was explained in detail, but no alternative working examples or possibility of other constitutions of the invention were suggested.

③ Descriptions presenting alternative working examples or suggesting the possibility of other constitutions of the invention were insufficient in a divisional application. This problem occurs when dealing with a restriction requirement made on lack of unity of the invention. It was observed in a relatively large number of samples in the review.

④ The invention was not explained based on its embodiment, but by such an expression as "the present invention will be..." Moreover, the invention was expressed by an expression used in the claims: "the present invention comprises..." In other words, the invention was defined in the claims and the specification by using the same expressions, and no consideration was being given to use different terms for the two.

In this case, the scope of the claims would very likely be interpreted based on the statements in the Detailed Description, and when such an interpretation is made, the defense would be quite difficult.

⑤ Unlike the above, there were cases that received only a few indications from U.S. attorneys and were highly evaluated.

-The specification of the publication of the unexamined Japanese application was short and concise, and the Detailed Description in the U.S. patent specification was about 0.5 pages. The specification was short, but as a whole, it was drafted in such a way that made it easy for the reader to understand the invention.

-When comparing the U.S. patent specification and the publication of the unexamined Japanese application, one could see that the latter has been drafted with future filing of a U.S. application in mind and that sufficient considerations have been made in translation.

(ii) Cause of the problem and the solution

① Compliance with the description style of a U.S. specification

In many cases, direct translation of the specification of the Japanese application was found to result in descriptions that do not comply with the description rules of a U.S. specification. A positive effort should be made to satisfy the formality requirements of the U.S. patent system, such as appropriately complying with the format of a U.S. patent specification, when drafting the specification of the Japanese application or a specification to be used for translation into English. Furthermore, if a U.S. patent specification were drafted in Japanese by paying attention to the content of description, its direct English translation would sufficiently make a U.S. specification of the prescribed quality.

② Requirements for supporting the important technology

It is necessary to either indicate multiple working examples or, if that cannot be achieved, at least to suggest the possibility of other embodiments of the invention. This would be effective for preventing the invention from being interpreted narrowly and restricted to the single working example.

③ Strategic use of generic terms and specific terms

Sufficient consideration should be given to the description of the claims and the description of the claimed elements in the specification in order to avoid the registered patent claims from being interpreted narrowly. To this end, the claims should be described by using "generic terms," while the specification should be described not only by "generic terms," but also by using "specific terms" for concrete embodiments.

One example of a specification taking such a measure was a patent relating to a technology of bundling signal wires for optical communication with a reinforcing member. In this patent sample, three levels of terms were used in expressing the invention: "reinforcing member" as the higher concept; "reinforcing rod" as the medium-level concept; and "steel rod" as the lower concept.

(7) Claims

(i) Actual problematic cases and the impact on enforcement

① Content of claim descriptions

There were cases that used inconsistent terms in the claims, and cases of which Claim 1 was redundant and extended to about two columns of the patent specification.

In general, redundant claim expressions are more liable to become the basis of a narrower interpretation since they include extra words.

② Paragraphing of the claims

When a patent is issued after making an amendment in the course of the prosecution, the scope of the amendment generally becomes an issue in respect to the estoppel. If the constituent elements are described as independent paragraphs and the elements are organically combined to compose the claims, the amended elements would not affect the other elements in the claim interpretation. This measure has been considered extremely important ever since the decision in *Festo*, but very few of the samples had put it in practice.

③ Claims of multiple categories

It is important to draft claims of multiple categories and increase the number of claims in a single application. However, Japanese companies tend to make insufficient efforts to increase the number of claims in filing a U.S. application, as discussed later.

The difficulty of increasing the number of claims has also been pointed out, because diverse categories often become subject to restriction requirements under the strict unity requirement in the United States. Among the samples analyzed, some were found to include different types of claims within a single registered patent while clearing the unity requirement. Those samples are introduced below.

-A case in which the substantial characteristics were in the process invention, and the claims for the apparatus used for working that process invention were described together

-A case in which the invention was characterized by a partial constitution, and the claims for a larger structure comprising that constitution were described together

-A case in which composition claims were registered together with the claims for a process invention that included the mixing process

④ Proper antecedent basis

This is an item that is very difficult to check. Definite and indefinite articles present a critical problem in the claim construction. Since the Japanese language does not have an article corresponding to "the," precise use of definite/indefinite articles is a very difficult task for Japanese practitioners. An assumable measure

would be to ask a U.S. patent attorney to check this aspect of the U.S. application in advance.

(ii) Comparison of the number of claims

Twenty specifications selected from the samples were studied in detail with respect to the number of independent claims and the total number of claims. As a result, about 50% were registered with approximately the same number of claims as the corresponding Japanese application, and efforts to have more than 20 claims patented by proactively using the U.S. claim system were observed in only four samples (20%). There were 13 samples of which Japanese application consisted of a single independent claim. Most Japanese companies seem to be acquiring U.S. patents by filing the same number of claims as the Japanese application, which contains a relatively small number of claims. Therefore, use of a larger number of claims should be considered within 20 claims, which is the maximum number of claims that can be filed without an additional fee in the United States.

Ⅳ Descriptions in the specification of a U.S. patent application

The following were found as a result of reviewing about 100 U.S. patents.

① Many samples were found to be incompliant with the description rules of a U.S. specification. The claims of these samples would be prone to receive a narrower interpretation due to the descriptions in the specification.

② An English specification of a near-satisfactory level could be achieved by appropriately preparing a Japanese specification for the translation and translating it correctly.

Accordingly, a guideline was compiled for the descriptions in the respective items of a U.S. specification and a checklist was created for checking the Japanese specification drafted for the translation.

1 Guideline on the descriptions in the respective items of the specification

The descriptions in the specification only satisfy the requirements for patent by being described in such full, clear, concise, and exact terms as to enable any person skilled in the art to make and use the invention disclosed in the claims (CFR 1.71(a)). However, the descriptions could also hinder effective enforcement and lead to a narrower interpretation of the claims as mentioned above, so the utmost care must be taken to prevent such a situation.

Thus, a guideline on the descriptions in a specification was compiled from the above points of view with particular focus on Background of the Invention, Summary of the Invention, Detailed Description, and Claims, which were found to be frequently misunderstood.

2 Checklist for the claims and the specification

A checklist was created to check whether the descriptions in the specification do not include any unnecessary information with particular focus on the following items that are likely to become the basis for a narrower interpretation of the invention: Abstract; prior art in Background of the Invention; description of Summary of the Invention and mention of the purpose of the invention; Brief Description of the Drawings; Detailed Description that can broadly support the important technology; distinguished use of generic terms and specific terms between Claims and Detailed Description; and paragraphing of the claims.

If one drafts the Japanese version of the U.S. patent specification in compliance with the format of a U.S. patent specification by paying attention to the descriptions based on the proposed guideline, and confirms the content with the checklist, even its direct translation into English would be expected to make a U.S. specification that is able to clear the prescribed level.

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