

## 5 Strategic Drafting of Applications for U.S. and European Patents by Japanese Companies from an Enforcement Perspective (2)

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*In this report, a method for converting a U.S. application into a European application was considered as one of the measures for Japanese companies to obtain patents whose rights are usable in Europe and the United States. While measures to strengthen U.S. applications were proposed in a study during the last fiscal year, a study this year proposes a method for filing a European application on the basis of an improved U.S. application.*

*In this study, 30 European applications filed by Japanese companies were analyzed, and problems with descriptions in claims and specifications were indicated. Problems peculiar to European patent applications were extracted through comparison with points to be noted upon filing U.S. patent applications, and solutions to the problems were considered. The principle of one independent claim per category and other problems were closely examined.*

*In addition, matters to be noted upon filing U.S. applications were sent to barristers in Germany and the United Kingdom to confirm items that should be added as points to be noted upon filing European applications from the viewpoint of enforcement.*

*On the basis of the above result, checklists for the specification for filing an application in Japan, the United States, and Europe, were prepared. Furthermore, measures for effectively utilizing overseas representatives to implement these checklists were developed.*

*Against the background of the above achievements, this study proposed a means of preparing a patent specification that enables effective claim of the right at the Trilateral Patent Offices-the Japan Patent Office (JPO), the United States Patent and Trademark Office (USPTO), and the European Patent Office (EPO).*

### 1 Purposes and Problems of the Study

According to data on patent applications in countries throughout the world that was published by the World Intellectual Property Organization (WIPO) in 2002, 71% of all applications filed by Japanese companies or organizations were filed in Europe or the United States, with the majority filed in the United States. With respect to foreign applications, Japanese companies attach greatest importance to the United States, followed by the EPO.

According to the results of interviews with companies that are actively filing foreign applications, Japanese companies prepare a specification for a U.S. application based on the Japanese application, and then convert the specification into the format for a European application.

This study was intended to consider a means of filing applications in the United States and Europe based on Japanese applications in line with the trend of foreign applications of Japanese companies. The means proposed in this report aims not only to obtain patents, but also to prepare claims and specifications that will enable a successful claim of rights in disputes in foreign countries.

In the last fiscal year (FY 2002), problems with

U.S. patents obtained by Japanese companies were analyzed, and proposals were made to improve the method of describing a specification including claims. If Japanese companies can draft the specifications of applications to be filed with the EPO on the basis of suggested improvements of U.S. applications, it is expected that they can build a strong network of their foreign patents with regards to enforcement.

This fiscal year, European patents obtained by Japanese companies were analyzed with the aim of establishing a means of filing applications with the Trilateral Patent Offices-the JPO, the USPTO, and the EPO-for one invention created in Japan. In addition, conversion of a U.S. patent application into a European application was also considered.

### 2 Analysis of European Patents Possessed by Japanese Companies

#### 1) Background

The actual conditions of 30 European patents of Japanese companies were reviewed. Based on the review results, problems with descriptions of claims and specifications were clarified, and measures for dealing with the problems were examined. Published patent applications were reviewed as main samples, and published granted patents were reviewed as appropriate.

## **2) Issues Related to Claims**

### **i) Items that Were Questioned**

The following details items in which more than 30% of all samples were pointed out as having problems, and suggests points to be checked.

Item 1: Does the sample contain many different categories of claims?

This item checks whether an application contains different categories of claims, such as process, apparatus, product, composition, and use. This relies on Rule 29(2) of the Implementing Regulations to the Convention on the Grant of European Patents (hereinafter referred to as the EP Regulations). This is not an essential item for examination at the EPO, but it checks on whether the broad protection of an invention is taken into consideration in filing a patent application in view of enforcement.

Item 2: Does the sample contain one independent claim per category?

Rule 29(2) of the EP Regulations stipulates that more than one independent claim in the same category cannot be admitted. This item was considered because this rule constitutes a reason for refusal at the EPO.

Item 3: Is the number of claims 10 or under?

This is important from an economic standpoint since Rule 31 of the EP Regulations stipulates that an applicant has to pay a claims fee (40 euros per additional claim) for each claim over and above 10.

Item 5: Does the sample adopt the multiple dependent claim form?

Rule 29(4) of the EP Regulations admits the multiple dependent claim form. Claims in this form enable various responses against infringers or licensees. How the form is used was checked since it is a useful means of keeping the number of claims to 10 or under, and is a practice that allows establishing a multiple dependent claim based on a multiple dependent claim, which is not admitted in the United States.

Item 6: Does a claim include reference signs?

Rule 29(7) of the EP Regulations stipulates that reference signs for drawings can, if the intelligibility of the technical features mentioned in the claims can thereby be increased, be assigned to the parts relating to these features. It also stipulates that reference signs shall not be construed as limiting the claim.

Item 13: Are claims described in a two-part form?

This item is related to two-part claims as stipulated in Rule 29(1) of the EP Regulations. In the United States, it is general practice to avoid using a two-part form (for example, a Jepson form) as far as possible. This item compared how Japanese companies deal with this practice which is different in Europe and the United States.

Regarding these problems, the number of claims (Item 3) and reference signs in claims (Item

6) seem to be related to fees or the applicant's decision. Therefore, neither is mentioned in detail here, but Items 1, 2, 5, and 13 are described in greater detail.

### **ii) Analysis of the Problems**

① There are only a few different categories of claims

As a result of review, European patents of Japanese companies contain only a few independent claims of various categories. This is a major problem for applications by Japanese companies, which was also indicated when reviewing U.S. patents.

Many claims prepared by Japanese companies are in the form of placing many dependent claims under one independent claim.

In addition, even if companies think that they have prepared different categories of claims, independent claims may be deleted in the examination process. According to the review results, the percentage of samples that do not contain different categories of claims was 48% for published patent applications but was 59% for published granted patents. This means that the number of independent claims decreases during the examination process for the reason of unity or any other reason.

Although this is mentioned in detail in Chapter II "Analysis of Claims," including independent claims of different categories is expected to have effects such as largely increasing the possibility that patentees can file lawsuits against various infringers once patents are registered.

Therefore, in preparing patent claims, attention should always be paid to drafting claims of different categories if possible. It seems necessary to consider including at least one process and one apparatus.

② Problem of one independent claim per category

This is a problem arising in 55% of the sample at the stage of published patent application. According to interviews with Japanese companies, about 60% of the companies answered that they did not check this problem at the time of filing applications. Since this problem constitutes a reason for refusal at the EPO, a careful handling is considered necessary.

In addition, if companies resolve this problem at the time of filing applications, they can avoid some objections made during the examination procedure, which seems to be advantageous in terms of time and costs.

This problem seems to be resolvable by such methods as drafting as many independent claims as possible based on a higher concept or by making all claims in the same category other than a single independent claim into dependent claims.

However, there is a question of what to do if it is difficult to set a higher concept. What is important here is that exceptions stipulated in Rule 29(2) of

the EP Regulations can be admitted. According to the review results, two or more categories of independent claims have been admitted for 13% of samples in the field of machinery, for 36% in the field of electricity, and for 30% in the field of chemistry.

The above-mentioned results can be estimated to be due to the application of exceptions as stipulated in Rule 29(2). Cited examples of exceptions are products and their combination, and a compound and a composition of matter, for which a higher concept cannot be set because there are several alternative solutions. Therefore, if it is difficult to meet the principle of one independent claim per category, it is necessary to consider actively drafting independent claims based on the exceptions stipulated in this provision.

### ③ Problem of multiple dependent claims

The use of multiple dependent claims should be positively considered from the viewpoint of reducing the number of claims in terms of cost. Since European applications are largely different from U.S. applications, the review of claims is required. However, if draft claims of U.S. and European applications are prepared at the time of filing a corresponding Japanese application, not much additional labor will be required.

### ④ Problem of two-part claims

With respect to two-part claims, it is not clear, at the time of filing an application, where the true prior art exists, and the characterizing part of an invention becomes clear along with the progress of examination in many cases. Therefore, even if claims are described in a two-part form, it is necessary to amend them at the subsequent examination stage. On the other hand, if claims are described in a two-part form, which makes the scope of the claims narrower, from the time of filing an application, problems may arise in the future, such as a narrower interpretation of the right and unjust treatment in an agreement.

It is a difficult question whether to describe claims in a two-part form at the time of filing an application.

It is considered safe to adopt a two-part claim only when the prior art is absolutely clear at the time of filing an application.

## 3) Issues Related to Detailed Description

### i) Items that Were Questioned

Regarding the following five items, problems were indicated in more than 30% of samples. The details of the items and points checked are shown below.

Item 5: Are the descriptions of a solution related to claims?

The key points of this item are to confirm whether the descriptions of a solution are related to claims and to check whether the purpose of the invention is achieved by a combination of

characteristics described in the main claim and whether sub-claims fall under further improvements of the invention.

Item 6: Is the mere repeat of claims avoided in the descriptions in the specification?

In the detailed description, the contents of claims should be explained in order to clarify them. Whether companies pay attention to such points was checked.

Item 7: Is detailed description of the invention written in general terms?

When describing the characteristics of the invention, the careless use of a term for a lower concept will cause a narrower interpretation. Whether companies pay attention to such point was confirmed.

Item 9: Are claims before amendment or at the time of filing an application listed in the specification as "clauses"?

Although "clauses" are not exactly claims, they can bring about an effect similar to the publication of claims. It was checked whether companies use devices, such as reducing claims fee based on such a method, which is peculiar to European patent applications.

Item 18: Is a detailed description of the invention in a specification written in comprehensive terms indicating a higher concept?

As with Item 7, this item aims to check whether companies write a detailed description of the invention in consideration of broad protection of the right.

Incidentally, Items 7 and 18 were pointed out as problems with U.S. patents of Japanese companies, and the causes of these problems were analyzed and solutions proposed. Therefore, Items 5, 6, and 9 are described here in further detail.

### ii) Analysis of the Problems

① Relationship between the fact that a solution is described in a reflection of claims and the fact that claims as they are should not be described as a solution (Relationship between Item 5 and Item 6)

In Europe, the inventive step of an invention is determined through the problem-solution-approach. The characteristics of an invention are made clear by making the purpose correspond to the broadest claim (independent claim) and clarifying that the purpose does not correspond to any dependent claim.

Then, describing the mere independent claim is a conceivable method, but this is not acceptable, and an explanation of the details of claims should be added. This is the purpose of checking Item 6.

On the other hand, in the practice of U.S. applications, there is a concern that the description of the purpose of the invention will lead to a narrower interpretation of the claims. Therefore, it is recommended not to write the purpose but to trace the claims to the possible extent.

This item is thus highly likely to be pointed out for applications filed by Japanese companies that are drafted by converting a U.S. application into a European application.

Therefore, there is a possible question of how to deal with this problem when converting a U.S. application into a European application.

First of all, regarding the description of the purpose, many U.S. patent specifications list several different aspects of a solution in the invention, but it is important to reconfirm the "main purpose" of the invention and make additions if necessary before filing a corresponding European application. It is appropriate to insert a simple and accurate purpose as the "main purpose."

Otherwise, it is acceptable to describe the "main purpose" merely as "the purpose of the invention is to provide a solution to the defects of the prior art."

Next, regarding the relationship between the purpose and claims, it is possible to clarify the relationship by inserting a simple description to the effect that "the above-mentioned purpose is achieved by a combination of the characteristics described in the independent claim, and subordinate claims provide for specific advantageous examples of the invention."

This is because the insertion of such a description expresses that the entirety of the combination of the characteristics is described in response to working examples while stating that the combination of the characteristics cited in the (independent) claim provides a solution to the purpose of the invention.

The above is considered to serve as practical guidelines for those who associated with Japanese companies when drafting European patent specifications.

## ② Use of "clauses"

According to a decision (J15/88), it is possible to describe several independent claims as several clauses after the "summary of the invention" under the title of "preferred features of the invention."

In converting a U.S. specification into a European specification, there is the question of how to leave the original claims in the U.S.-style specification as they are, but this problem can be solved by using clauses. The use of such clauses largely expands the contents of a European application at the time of filing because the original claims in a U.S. application discuss various combinations of the characteristics of the invention as well as many aspects thereof.

Out of 30 samples subject to this review, only one used such clauses. The use of clauses can reduce the number of claims, so Japanese companies should actively consider using this method to keep the number of claims to 10 or under.

## 3 Results of Analyzing the Claims of U.S. Patents Possessed by Japanese Companies

### 1) Background

With the aim of considering solutions to the main problems with the claims of patents possessed by Japanese companies, 20 U.S. patents were selected and their Official Patent Gazettes and examination processes were reviewed.

### 2) Items that Were Questioned

Items related to claims with which many samples were pointed out as having problems are as follows. The details of matters pointed out and countermeasures are indicated below.

#### i) Claims that Are Narrowly Interpreted

Four out of 20 patents (20%) subject to the review contained a claim that may invite a narrower interpretation of the technical scope. In addition, for 20% of subject patent applications, a patent was granted without any reasons for refusal being given concerning the substantive contents of the relevant patent. The fact that a decision to grant a patent is made at the initial application indicates the possibility that claims drafted at the time of filing may cover a narrower technical scope than that determined based on the prior art.

#### ii) There Is Only One Independent Claim

A majority of samples (55%) contained only one independent claim. That a patent contains only a few independent claims is a problem common to patents of Japanese companies.

In drafting patent claims, it is necessary to include at least one process and at least one apparatus wherever possible and to draft independent claims that define multifaceted aspects. This largely enhances the possibility that patentees can file lawsuits against various kinds of infringers after registration of patents.

According to the review results, 75% contained technical content suitable for a claim for a process of manufacture, and 20% contained technical content suitable for a use claim, but these contents had not been put into claims.

#### iii) Antecedent Basis

65% of registered patents reviewed had descriptive problems relating to antecedent. Specifically, one thing is described as "above-mentioned" though it is actually "first mentioned." Such logical contradictions become major obstacles at the time of enforcement or licensing negotiations.

Nearly half of such problems were solved during the examination procedure, but more than one-third of registered patents still have some form of descriptive problems relating to antecedent.

This is also an issue that consistently comes up for Japanese companies. Many companies may think that such problems would be resolved during the

examination procedure, but in fact, the problems will not be completely cleared up through examination. In addition, the fact that no improvements have ever been made and antecedent-basis descriptions have been pointed out repeatedly is also a problem. Applying companies, translation companies, and other persons concerned are considered to be required to make efforts to reduce such problems through accumulation of past cases.

#### iv) Alternative Words

Half of registered patents reviewed contained claims that include an alternative word such as "either...or" and "or." The use of an alternative word often causes a certain degree of ambiguity in terms of the scope of the claims. Even when the scope of the claims is easily determinable, the use of such a word may induce a refusal during examination, which could have been easily avoided. Therefore, the use of an alternative word should be avoided as far as possible.

If it is necessary to give two or more alternatives to a claimed element, the Markush form and other methods should be considered.

#### v) Paragraphing of Constituent Features

35-40% of patents reviewed used "storytelling" expressions, and claims were not put into paragraphs so as to correspond to the conceptual separation of claimed elements.

Since there is no clear definition of "element," the U.S. court may use the structural constitution of claims as a basis for distinguishing among elements. Therefore, in terms of drafting U.S. claims, it is recommended to separate elements and concepts structurally and explain their relationship by using clear and simple expressions.

The following are well-known advantages of putting elements into paragraphs: (1) Each constituent feature becomes clear and judges, the jury and other related persons at the court can thus easily understand the relationship between the constituent features; (2) The effect of amendment in claim interpretation is contested at court, but the subject of the contestation may be limited to the scope of the amended constituent features.

This is also an important matter in terms of enforcement. Therefore, in this study, samples in which constituent features are not put into paragraphs were selected out of patents reviewed in order to consider the optimal way of putting claims into paragraphs.

## 4 Conversion of a Specification of a U.S. Application into a Specification of a European Application

### 1) Issues for Foreign Applications of Japanese Companies

Problems with European patent applications

and U.S. patent applications fielded by Japanese companies and countermeasures against them were considered so far. The method of converting a U.S. application into a European application was discussed in consideration of these points.

The problems considered can be divided into issues common to U.S. and European applications and issues peculiar to European applications.

i) Common issues are (1) that the number of independent claims of different categories is small, and (2) that detailed description of the invention does not describe the invention by using a possible highest concept. These are important issues to be noted from the time of filing a Japanese application, and must be noted in filing a European application.

ii) An issue peculiar to U.S. applications is the way of describing claims and detailed descriptions to prevent the claims from being interpreted narrowly. Examples are to give consideration to limitative expressions in claims, to put constituent features into paragraphs, and to avoid describing the purpose of the invention in the detailed description as far as possible.

In converting a U.S. application into a European application, it is questioned whether specifications and other documents with such considerations given are unfavorably treated in Europe.

According to the results after confirming this point with barristers in the United Kingdom and Germany, there is nothing wrong with filing applications in Europe with U.S.-style practical considerations. In Europe, as long as the contents of the invention are properly disclosed in the specification, deficiency in the description may be made up for, and there is no need to get nervous about the description in the specification. However, with U.S.-style considerations given, unnecessary discussion on the scope of the claims can be avoided in the court cases in Europe.

iii) As for issues peculiar to European applications, (1) issues for claims are the principle of one independent claim per category, keeping the number of claims to 10 or under, the use of multiple dependent claims, reference signs in claims, and two-part claims, and (2) issues for detailed description of the invention is to avoid describing a solution and repeating claims, i.e. the problem of use of "clauses."

If problems common to Japan, the United States, and Europe are solved in a U.S. specification, it is considered possible to convert the U.S. application into a European application on the basis of the said U.S. specification by adding issues peculiar to European applications.

### 2) How to Incorporate Issues Peculiar to European Applications into the Contents of Basic U.S. Applications

i) Problems Concerning the Categories of

## Claims

Unlike U.S. applications, only one independent claim in the same category can be set for European applications, except exemptions stipulated in Rule 29(2) of the EP Regulations. Therefore, this is also one of the problems in conversion.

The following are ways of coping with this problem.

① To make all claims in the same category other than one independent claim into dependent claims in principle.

② When making claims into dependent claims, to make them be dependent on multiple claims. In that case, it is also possible to use a multi-multi form.

③ In the case that it is impossible to comply with the principle of one independent claim in the same category, to draft claims by using exceptions stipulated in the above-mentioned rule. For example, products and their combination (battery packs and their combination), or the composition of a compound and a composition of matter seem to be admitted as exceptions.

### ii) Question of Whether to Describe the Scope of the Claims in a Two-Part Form

Request for a two-part form constitutes a difference between European practice and U.S. practice, and this becomes a problem in conversion.

In addition, if some constituent elements that produce the characteristics of the invention are carelessly included in the presupposed elements, the applicant may be considered, in infringement suits, etc., to have acknowledged that the relevant elements are part of the prior art.

In the sense that the examiner has not completed prior art search and substantive examination, it seems to be not always necessary to adopt a two-part form at the time of filing an application when the prior art has not been determined, if the prior art is unknown.

### iii) Methods of Avoiding and Reducing Fees for Excess Claims

Under the European patent system, claims over and above 10 are subject to fees for excess claims. The following are measures to reduce the number of claims.

① To reduce the number of claims by using a multiple dependent claim form, and adopt a multi-multi dependent form if necessary.

② To describe the claims of a U.S. application, which are not considered necessary to be included in the scope of the claims of a corresponding European application, as "clauses" after the "summary of the invention" in the specification.

### iv) Method of Describing "Problem-Solution-Effects" in a Specification

Rule 27(1)(c) of the EP Regulations stipulates that the claimed invention shall be disclosed in a specification in the form of "problem-solution-effects." To comply with this stipulation, U.S. patent

specifications must be changed significantly. The way of using the descriptions in U.S. specifications to the possible extent is shown below.

① In the case that the "background of the invention" gives a sufficient explanation of the prior art, the description of the purpose of the invention shall merely describe the effect that "The purpose of the invention is to provide a solution to the defects of the prior art."

② The relationship between the purpose of the invention and a solution can be explained by one sentence as follows: "The above-mentioned purpose is achieved by a combination of the characteristics described in the independent claim, and subordinate claims provide for specific further advantageous examples of the invention."

③ In order to reduce the risk of a narrower interpretation, consideration shall be given to inserting one sentence to the effect that "this summary of the invention does not list all necessary characteristics, and therefore, sub-combinations of these characteristics may also constitute an invention."

## 5 Consideration of a Strategic Specification to Be Filed with the Trilateral Patent Offices-the JPO, the USPTO, and the EPO Checklist for U.S. and European Applications

The following was found as a result of reviewing European patents and U.S. patents possessed by Japanese companies.

① Both U.S. patent attorneys and European patent attorneys pointed out that European and U.S. patents possessed by Japanese companies contain only a few independent claims of different categories and do not describe the invention by a higher concept in detailed description of the invention. These points are essential matters from the viewpoint of utilization of rights, and sufficient consideration seems necessary at the time of filing Japanese applications.

② Description requirements for a claim differ between the United States and Europe.

③ For detailed description of the invention, description requirements differ slightly between the United States and Europe in some points. But it is possible to adopt a description common to Europe and the United States that will not cause problems from a practical standpoint.

When filing a U.S. or European application on the basis of a Japanese patent application, it is necessary to draft a specification for the translation with attention given to the above-mentioned points. Since there are common matters that must be noted from the time of drafting a Japanese specification in terms of the disclosure of claims and the invention, it is important to draft a specification, which

provides a strong right in Japan and of which mere translation is also accepted in Europe and the United States, at the time of filing a Japanese patent application.

Therefore, a strategic specification of an application to be filed with the Trilateral Patent Offices-the JPO, the USPTO, and the EPO -was considered, and a checklist for specifications of U.S. and European applications was proposed.

① Regarding claims, description requirements differ between the United States and Europe, so claims for a U.S. application and those for a European application shall be accurately drafted in Japanese separately.

② Regarding specifications, it is important to consider issues peculiar to European applications, such as measures to avoid self-collision, in terms of a specification of a European application. Apart from these exceptions, there seems to be no problem in using a common specification for a U.S. application and a European application.

③ By using the checklist, it seems possible to review items to be considered in drafting a specification of a Japanese application that is suitable for U.S. and European applications.

If the contents of a Japanese application are satisfying from the very beginning and fulfill the quality conditions for a Japanese original for the translation as mentioned here, the Japanese application can be diverted to U.S. and European applications by merely changing its form. This is thus considered to be most desirable.

attorneys. Due to this fact, it is considered that there remain problems that Japanese companies should solve with the cooperation of overseas patent attorneys, such as checking methods and their thorough implementation.

(Senior Researcher: Shinichi Irie)

## **6 Proposal to Use Representatives to Strategically File U.S. and European Applications**

In the case of aiming to obtain a strong patent in the United States and Europe from the viewpoint of utilization of rights, cooperation from overseas patent attorney seems to be essential.

According to the results of a questionnaire survey targeting companies, companies seem to be carrying forward the practice of filing applications in the United States and Europe by themselves without making active use of overseas patent attorney. However, there seem to be many cases that would benefit from the advice of overseas representatives. Such efficient division of labor is considered to be a future task.

Furthermore, with regard to problems with foreign applications of Japanese companies that were cited by overseas patent attorneys, many Japanese companies were supposed to be doing sufficient checks before filing applications, according to interviews with Japanese companies this time. However, it is an indisputable fact that these problems have not yet been solved in the actual samples that were analyzed by overseas patent

