

7 Study on Patent Claim Interpretation (II)

In Japan, the doctrine of equivalents has become established as one of the basic principles for claim interpretation. On the other hand, functional claims and product-by-process claims are thought to be interpreted by comprehensively considering individual and specific factors based on the principles of general claim interpretation.

*This report analyzes and studies recent court decisions with respect to the interpretation of the doctrine of equivalents, functional claims and product-by-process claims in Japan, as a sequel to last year's "Study on Patent Claim Interpretation." With regard to the doctrine of equivalents in particular, this report collects the relevant lower court decisions after the Supreme Court decision in the *Ball Spline* case in 1998, and then analyzes and groups them according to the status of application of the five requirements for establishment of equivalence. Furthermore, the report compares these domestic court decisions with the U.S., U.K. and German court decisions that were analyzed in last year's report so as to examine their respective interpretations in detail.*

Introduction

This report is a sequel to the "Study on Patent Claim Interpretation" published last year (FY 2001).

Domestic Provisions Concerning Patent Claim Interpretation

This report first addresses Section 70 and Section 36 of the Patent Law, which are provisions concerning patent claim interpretation in Japan, reviews the history of amendments to these provisions as well as the legislative objective of Section 70(1), and then examines the significance of the "statements of the patent claim(s) [scope of claim]" provided in Section 70(1). The report presents representative court decisions that referred to the aim of Section 70, and in the course of this, it also presents legal theories concerning patent claim interpretation that are not expressly stipulated in the Patent Law, but are acknowledged for the purpose of interpretation, such as consideration of the prosecution history (and the file wrapper estoppel in particular), prior arts, consideration of the state of the art at the time of the filing of the application, the doctrine of patent invalidation/abuse of right, and the doctrine of equivalents.

Trends in the Lower Court Decisions Concerning the Doctrine of Equivalents after the Supreme Court Decision in the *Ball Spline* Case

This report collects, groups and analyzes court decisions concerning the doctrine of equivalents that were rendered during the period from

February 24, 1998, when the Supreme Court decision in the *Ball Spline* case had been rendered, until May 30, 2002. Viewed by patent right concerned, the assertion of equivalence was accepted only in about 7% of all cases in which equivalency was considered. The application of the doctrine of equivalents is likely to be prevented due to the five requirements in the following order of frequency: the First Requirement (non-essential portion); the Fifth Requirement (intentional exclusion [prosecution history estoppel]); the Second Requirement (interchangeability); the Third Requirement (ease of interchange); and the Fourth Requirement (unavailability as prior art).

In the relevant lower court decisions, the following points are noticeable.

① Courts judged that the First Requirement was to be satisfied even when the accused product differed in the structure from the patented invention with respect to an essential portion, if the difference was minor and the accused product and the patented invention were based on the same technical idea (Tokyo District Court decision on March 23, 2000; Osaka District Court decision on May 23, 2000).

② The court judged the accused product to be equivalent to the patented invention on the ground that the structure, which had been added to the patented invention by the amendment made in response to the examiner's notification of reason for refusal, was a conventional means and therefore was not an essential portion of the patented invention (Osaka District Court decision on May 27, 1999). This decision differs from the CAFC decision (in banc) in the *Festo* case.

③ The Second Requirement was determined in the same manner as determining interchangeability, which had conventionally been accepted when applying the doctrine of equivalents.

④ No dispute was brought in these cases with respect to the Third Requirement under which

equivalence was to be determined based on the ease of interchange at the time of manufacturing instead of at the time of filing.

⑤ With respect to the Third Requirement, the court judged that “it had been easy to conceive the structure of the accused product without carrying out special experiments,” while acknowledging that there had never existed a product having the same structure as that of the accused product at the time when the production of the accused product had started (Osaka District Court decision on May 23, 2000).

⑥ With respect to the Fourth Requirement, the court broadly interpreted the Supreme Court decision and denied equivalence, holding that, in the case where the subject product was identical to the device that was described in the specification or drawings for the prior application, “an art for which nobody could have obtained a utility model registration cannot be deemed to be included in the technical scope of the registered utility model,” and judged such an art to be included in “the prior art at the time of filing” (Tokyo High Court decision on November 28, 2001).

⑦ With respect to the Fifth Requirement, there are cases in which: an amendment was made to reduce the scope of claim in response to the JPO examiner’s notification of reason for refusal; a structure that had been included in the scope of claim for the original application was intentionally excluded from the scope of claim for the divisional application based on the former application; and the court rejected an argument opposed to the “explanation to clarify ambiguous statements” that had previously been accepted.

According to the trend in the lower court decisions concerning the doctrine of equivalents, the scope of its application is extremely limited. However, where it is obviously necessary to reasonably interpret the technical scope from the perspective of equity and fairness, it would rather be appropriate to rationalize the scope of products that are substantially identical to the constituent features described in the scope of the claim as literal infringement. In this respect, the Supreme Court decision (Third Petty Bench) on April 28, 1998 will be a useful example.

The doctrine of equivalents would be of significance if it exists as a fundamental rule for modifying other interpretation criteria for the technical scope.

Trend in the Lower Court Decisions Concerning the Interpretation of Functional Claims and Product-by-Process Claims

The Japanese Patent Law does not have a

provision that is expected to be applicable for special interpretation of functional claims and product-by-process claims. In Japan, interpretations of these claims are equal to legal theories, and courts have defined the technical scope of inventions while comprehensively examining various factors within the framework of Section 70(1) and (2) of the Patent Law. Since there is no special provision under the Patent Law, it is unallowable to apply legal interpretations to functional claims and product-by-process claims alone in a manner that is inconsistent with the case of ordinary claim interpretation. By analyzing and examining the characteristics and particularities of functional claims and product-by-process claims and sufficiently understanding the necessity to describe such claims, it may not be impossible to secure legal stability and draw a valid conclusion without modifying or changing the interpretation of Section 70 concerning claim interpretation. Most efforts required for this purpose involve the finding of facts concerning the matters to be individually and specifically considered under Section 70(2) of the Patent Law as well as the comprehensive evaluation of the fact finding.

When determining an infringement in litigation, the following matters should be taken into consideration with respect to how to interpret functional descriptions for the purpose of defining the technical scope of the patented invention.

① “Functional description” should be interpreted in a manner that is most consistent with the purports of Section 36(6)(i) and (ii) of the Patent Law.

② If a “functional description” is broadly interpreted, it is more likely to include the prior art. In this case, it would be appropriate to narrowly define the technical scope of the patented invention by excluding the portion that constitutes the prior art, without questioning the “obviousness” of the ground for invalidation.

③ The technical scope of a patented invention may consist of a portion that is essential to the technical idea and other non-essential portion. Where a functional description is used for the structure that constitutes an essential feature, it is necessary to interpret the description by considering how those skilled in the art would understand it, through a strict comparison with the contents of the technical idea that is disclosed and explained in the description in the specification.

With respect to product-by-process claims, it is necessary to judge whether the description concerning the process is (A) a description intended to specify the product or (B) a description intended to restrict the scope of claim to products produced by the process. There would be no problem where it is obvious or where it is not obvious but can reasonably be presumed that the description concerned is a Type (B) description

whereas it is often unclear whether the description concerned is a Type (A) description. In the latter case, consideration should be given to the following points.

① A restrictive interpretation of a description concerning the process should be denied only under reasonable circumstances that satisfy the functions of the scope of claim and needs for its legal stability. Case-by-case consideration should be required in this respect.

② It is not always logical to draw a conclusion that it is impossible to define an “invention of product” by the process for producing the product.

③ It is inappropriate to consider whether the applicant intended to “define the product by the process,” with disregard to the description in the specification.

④ If the applicant intends to describe the process in the specification for the purpose of defining the product, he may take an approach of stating to that effect in the specification. However, such an approach has yet to be established in practice.

Comparison with Major Foreign Countries concerning the Doctrine of Equivalents

1 Japan-U.S. Comparison concerning the Doctrine of Equivalents

The important court decision for the U.S. interpretation of the doctrine of equivalents is the *Warner-Jenkinson* Supreme Court decision in 1997. In this decision, out of concern that the doctrine of equivalents, when applied, would impair the function of claim to make public the scope of monopoly for the patented invention, the Supreme Court applied the doctrine to each feature of a claim and more firmly applied the prosecution history estoppel, thereby raising an alert to excessive application of the doctrine.

This Supreme Court decision left the issues of what types of amendments would be subject to the prosecution history estoppel and whether the doctrine of equivalents would be excluded completely or flexibly when the prosecution history estoppel was to be applied. The *Festo* case decisions by the CAFC (in banc) and the Supreme Court clarified these issues.

The Japanese doctrine of equivalents is similar to the German doctrine, and it is not easy to compare it, in an exact and strict sense, with the doctrine in the United States where the history and litigation systems differ from those of Japan. However, the Japanese doctrine and the U.S. doctrine have recently been becoming closer to each other, and a bold comparison between the two brings about the following conclusions.

① There is no difference between Japan and the

United States with respect to the determination of equivalence for each feature of a claim.

② Among the three elements involved in the triple identity test, the test of substantially the same function and the test of substantially the same result correspond to the Second Requirement in the *Ball Spline* decision while the test of substantially the same way corresponds to the First Requirement.

③ The *Warner-Jenkinson* decision held that the time criterion of possible knowledge of those skilled in the art with respect to interchangeability of elements was at the time of infringement, meaning that whether those skilled in the art could have known the possibility to interchange an element of the patented invention with an equivalent should be determined based on their knowledge at the time of infringement, which is similar to the Third Requirement in the *Ball Spline* decision.

④ The prosecution history estoppel, which was established in the *Warner-Jenkinson* decision and the *Festo* Supreme Court decision, share the purport with the Fifth Requirement in the *Ball Spline* decision. However, due to the fact that the United States has the jury system while Japan does not have one, there is a difference between the two with respect to the burden of assertion and proof under the rule of prosecution history estoppel; In the United States, if the defendant asserts and proves that the applicant has made an amendment, it shall be presumed that the applicant has surrendered the equivalent concerned by making such an amendment whereas the burden of proof shall remain on the applicant in Japan. However, also in Japan, the defendant shall bear the burden of proof with respect to the Fifth Requirement to show that the applicant has intentionally excluded the subject product from the scope of claim by an amendment.

⑤ The *Formstein* decision in Germany indicated a concept corresponding to the Fourth Requirement in the *Ball Spline* decision whereas no such concept was found in court decisions in the United States. However, in the *Wilson* sporting goods case, the CAFC suggested a concept (on hypothetical claim) that is close to the Fourth Requirement, and therefore it is necessary to follow the future trend in the United States.

2 Japan-Germany Comparison concerning the Doctrine of Equivalents

German courts that deal with infringement litigation are subject to the principle of treating a patent as a valid one until a decision to invalidate it becomes final and conclusive in the patent invalidation procedure. The effect of a decision to grant a patent shall only exist in the principal sentence that acknowledges the patentability based

on claim(s). It is unallowable, either in the case of identical infringement or the case of infringement by equivalents, to look at matters other than the descriptions in the specification and drawings, which may be taken into consideration under the German Patent Law. Similar to an identical infringement, an infringement by equivalents is considered to come about as a natural result from claim interpretation and to be included in the basic scope of protection for a patent right.

The scope of protection for a patented invention from an identical infringement shall be the scope defined by the interpretation of patent claims by those having ordinary skill in the art to which the invention pertains on the filing date based on the detailed description of the invention, the drawings and the prior art that is included in the detailed description of the invention. Within this scope, the defendant may not present claim interpretation based on the prior art that is not included in the detailed description of the invention or assert a defense of free state of art. In this case, in order to avoid an identical infringement, the defendant should institute an invalidation lawsuit. In other words, in the case of an identical infringement in Germany, a patent shall be treated as a valid one until a decision to partially invalidate it becomes final and conclusive or unless a correction is made to add a restriction that has not been seen in the specification in the prosecution history and such correction becomes final and conclusive; thus, claims shall not be interpreted restrictively but literally.

Where the defendant's allegedly infringing embodiment is not included in the scope of protection from an identical infringement, consideration is made to expand the scope of protection under the doctrine of equivalents. The scope of protection from an infringement by equivalents is based on the knowledge of those having skills in the state of the art including the prior art that is not stated in the specification. It is allowed to assert a defense of free state of the art by drawing a conclusion to deny an infringement on the ground that the defendant's allegedly infringing embodiment is not patentable in light of such state of the art.

Under the existing German Patent Law, the prosecution history shall in principle be excluded from consideration unless a disclaimer or restriction of the scope of protection is stated in the specification. However, it is not allowed to assert the scope of protection that is inconsistent with the patentee's statement to restrict the scope during the opposition procedure, against a person who has been involved in the opposition procedure. On the other hand, it is denied to generally allow an assertion of the file wrapper estoppel against a person who has not been involved in the preceding procedure.

Germany differs from Japan in that, under the existing German law, courts have yet to clearly indicate the time criterion for the determination of equivalence and the dominant view supports the time of filing as such criterion.

Comparison with Major Foreign Countries concerning the Interpretation of Functional Claims and Product-by-Process Claims

1 Japan-U.S. Comparison concerning the Interpretation of Functional Claims

In the United States, a special provision regarding functional claims is stipulated as 35 U.S.C. Section 112(6). The CAFC decision (in banc) in the *Donaldson* case held that Section 112(6) should also apply in the course of examination procedure in the United States. On the other hand, there is no such special provision in the Japanese Examination Guidelines, and where a claim includes descriptions defining a product by its functions, characteristics, etc., all products that have such functions and characteristics shall in principle be recognized as being included in the scope of claim.

With respect to literal interpretation of claims, Section 112(6) of the U.S. Patent Law provides that "such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." Consequently, "structural equivalency" was required in the interpretation of equivalents in most court decisions.

Various opinions have been presented with respect to the relationship between such structural equivalency and the determination of equivalence under the doctrine of equivalents. As shown in representative CAFC decisions in the *Chiuminatta* case and the *Odedicts* case, details have yet to be established in the theories for interpreting "equivalents" provided in Section 112(6), such as whether to apply the all element rule or how to decide the ratio of application between the all element rule and the doctrine of equivalents. In any case, a functional claim shall not be deemed to be effective literally and shall only cover the structure, material or acts described in the specification and structural equivalents thereof.

In Japan, on the other hand, as there is no such provision on literal interpretation of claims that is seen in the U.S. Patent Law, whether functional claims should be specifically interpreted becomes a problem. The Tokyo High Court decision on December 20, 1978 held that, in the case where the constituent features of the invention were described so functionally and abstractly and their technical meanings were not clearly understood

from the description of the specification or technical common knowledge, the scope of right should not be defined by such features but limited to the scope in which those skilled in the art could have easily worked the invention based on the description of the specification. Such restrictive interpretation was also adopted in the Tokyo District Court decision on December 22, 1998.

Japanese courts showed the same direction as U.S. courts in that functional claims should be interpreted more narrowly than the language of the claims. However, the court decisions in Japan mentioned above focused on the issue of whether those skilled in the art could have worked the invention based on the description of the specification, rather than the issue of structural equivalency, which is to be considered in accordance with Section 112(6) of the U.S. Patent Law.

In Japan, the doctrine of equivalents has never been applied to functional claims. Theoretically, there seems to be no reason to deny application of the doctrine of equivalents unless the requirements established in the *Ball Spline* Supreme Court decision are satisfied. However, since a problem would arise in respect of predictability if the doctrine were applied to functional claims, careful consideration should be given to the application of the doctrine.

In the United States, infringements have been affirmed by courts according to the doctrine of equivalents. Under the U.S. Patent Law, the doctrine of equivalents shall apply in the case where (a) the function of an accused product is not identical to that disclosed in the specification but is regarded as being substantially the same therewith, and (b) interchangeability with technologies developed after the filing of the patent application is questioned.

2 Japan-U.S. Comparison on the Interpretation of Product-by-Process Claims

Product-by-process claims are accepted both in Japan and the United States. However, in both countries, there is a difference between claim interpretation in the establishment of patent right and claim interpretation in infringement litigation.

In Japan, the theory applied to the interpretation of product-by-process claims in the establishment of a patent right is that a product identical to the patented invention shall be included in the technical scope of the patented invention even if it is produced by a different process ("Identical Product Theory"), instead of the theory that such a product shall not be included in the technical scope if it is produced by a different process ("Process Limitation Theory"). The Identical Product Theory is also applied in the United States to claim interpretation in the

establishment of a patent right.

However, in the case of claim interpretation in infringement litigation, Japanese courts have applied either (1) the Identical Product Theory, (2) limitation by process under special circumstances, or (3) the Process Limitation Theory, but have never affirmed infringement. In the United States, two collegial bodies of the CAFC have applied different theories, one the Identical Product Theory and the other the Process Limitation Theory. An infringement was affirmed under the Identical Product Theory with respect to the patent for a product by a genetic recombination technology, but this case has been appealed and is currently pending at the CAFC.

In Japan, considering the significance of accepting product-by-process claims, it may be appropriate in some cases to apply the Identical Product Theory in interpretation of rights.

① Inventions pertaining to technical fields in which it is difficult, based on the state of the art at the time of the filing, to define a product produced by a process, according to its nature or structure (e.g. inventions in biotechnology fields)

② Inventions pertaining to technical fields in which a product is defined by the assembly method that is applied to assemble the product (e.g. inventions in mechanical fields)

③ Inventions pertaining to technical fields in which it is difficult to define changes that occur in a product due to a process, according to its nature and structure (e.g. inventions in chemical fields such as mixtures, high polymers, metals).

The primary significance of applying the Identical Product Theory in interpretation of rights is to secure predictability of claims for a third party. Therefore, disadvantages due to inadequate disclosure of the nature or structure of the patented invention should be born by the patentee, and deliberate interpretation should be required so that the effect of a patent right shall extend to a product produced by a process other than the disclosed process only if the nature or structure of the patented invention is clear to those skilled in the art based on the description of the specification, or if an accused product is produced after such nature or structure is clarified.

Conclusion: Comparison between Japan, the U.S. and Europe with respect to Patent Claim Interpretation

1 Japan-U.S. comparison

(1) Claim interpretation in the U.S. focuses on embodiments of the invention claimed in the specification, and the following three steps are taken for determining an infringement in litigation,

based on such focus.

- ① Whether an alleged infringement is an infringement of claim language;
- ② Whether the doctrine of equivalents should apply (expansion of claim language);
- ③ Whether the accused product falls under equivalents provided in Section 112(6) of the U.S. Patent Law (restriction of claim language)

In the *Warner-Jenkinson* decision, the Supreme Court held that equivalency should be determined through element-by-element comparison, but did not deny all decisions previously rendered by the CAFC through comparison of the invention as a whole.

(2) Claim interpretation in Japan puts importance on claims themselves, and many court decisions have been rendered by the following interpretation methods.

- ① Restrictive interpretation in light of the arts that were publicly known or used before the filing;
- ② Restrictive interpretation under the prosecution history estoppel;
- ③ Restrictive interpretation of the technical scope in the case where functional or abstract descriptions are included in claims.

In addition to these methods, the *Ball Spline* Supreme Court decision accepted the doctrine of equivalents, which had been suggested by lower courts as a method of expanding claim language.

If the Second Requirement and Third Requirement indicated in the *Ball Spline* decision are combined together, a product “that can achieve the same object and effect as an embodiment of the patented invention and that could have easily been conceived of by those skilled in the art based on the embodiment” shall constitute an equivalent to the patented invention. This definition is substantially the same as the ruling in the *Warner-Jenkinson* decision in the U.S. that judged an art that those skilled in the art would have known should be deemed to be equivalent to the patented invention.

In Japan, there is no such specific provision regarding the interpretation of functional claims as Section 112(6) of the U.S. Patent Law, and the interpretation is left to the discretion of courts. The objective of Section 112(6) of the U.S. Patent Law is not to nullify functional claims whereas there is room for application of the theory of “obvious invalidation” in infringement litigation in Japan.

2 Comparison between Japan and the U.K. / Germany in claim interpretation

(1) Claim interpretation in Germany clearly divides infringements into literal infringement of claims (identical infringement) and infringement by the subject product that is equivalent to the patented invention (infringement by equivalent). In the case of a dispute over an identical infringement, if there is highly likely to be a ground for

invalidation of the patent, the legal proceedings shall be suspended until the patent office renders a judgment in an invalidation trial. On the other hand, in the case of an infringement by an equivalent, judicial courts shall determine whether the equivalent is included in the scope of protection for the patented invention.

In Germany, in order for functional claims to be accepted, ① they should enable those skilled in the art to work the patented invention over the entire coverage of the functional expressions in the claims, and ② the functional expressions should not set forth the technical problem itself. The validity of such claims shall be examined by the German Patent Office or the EPO.

In the case of product-by-process claims, once a patent is established, products identical to the product produced by the claimed process shall be included in the scope of protection for the patented invention, irrespective of the production process or use of such products.

In this respect, there is an established rule in Germany that all that matters is the identicalness of products, irrespective of production process, both in the examination of product-by-process claims and the determination on infringement.

Requirements for equivalents in Germany are indicated in the *Formstein* decision.

- ① Whether an accused product solves the same problem as that solved by the invention.
- ② Whether the solution by the accused product relies upon the same operation/result as that relied upon by the invention.
- ③ Whether those skilled in the art could understand, based on the careful consideration on the claimed invention, that the operation/result achieved by the accused product is the same as that of the invention.

When comparing them with Japanese requirements for equivalents in the *Ball Spline* decision, the Second Requirement corresponds to ② and the Third Requirement corresponds to ③. The First Requirement, “non-essential portion,” is deemed to be included in ② and ③.

In German requirements, the condition of “based on the careful consideration” in ③ raises a problem. According to the *Formstein* decision, such understanding based on the “careful consideration” is deemed to be a thought that can be reached without making inventive efforts.

(2) Claim interpretation in the U.K. is based on the “purposive construction theory” consisting of the following three steps, which was suggested in the *Catnic-Improver* case.

- ① First step

Does the variant have a material effect upon the way the invention works? If yes, there is no claim infringement.

- ② Second step

Would this fact (i.e. the fact that the variant

has no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art? If yes, there is no infringement.

③ Third step

Would those skilled in the art nevertheless have understood, from the language of the claim, that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention? If yes, there is no infringement.

When comparing them with Japanese requirements in the *Ball Spline* decision, the first step corresponds to the Second Requirement and the second step to the Third Requirement, though the U.K. second step differs from the corresponding Japanese requirement in that it recites the date of publication of the patent as the critical date.

In Japan, it is assumed that all conditions described in the claim are in principle necessary or essential to define the claimed invention; therefore, the U.K. third step shall never be examined. Thus, the purposive construction in the U.K. is narrower than claim interpretation under the Japanese requirements in the *Ball Spline* decision.

There is a difference between the U.K. and Japan in that an expert witness is appointed in the U.K. but not in Japan, and that the file wrapper estoppel is not applied in the U.K.

(3) Conclusion

Though legal systems differ among Japan, the United States and European countries, there is a common theory that, in claim interpretation, courts and patent offices reexamine the scope of protection for the substantial value of a patented invention to determine the existence of an infringement by an accused product. The *Ball Spline* decision in Japan is deemed to have adopted the U.S. and German concepts on equivalents and suggested a common judicial theory, though in different expressions.

Also with respect to interpretation of functional claims and product-by-process claims, the United States and Germany stand on the same footing in that the scope of protection for a patented invention is limited to embodiments that could have easily been conceived by those skilled in the art based on the description in the specification, and the working examples in particular, and this theory has also been seen in some court decisions in Japan.

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