*Fukami Patent Office, P.C.*

# NEWS LETTER

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Opinion:

**Information Security at Patent Attorney Offices**

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Vice-President

Article:

**Utilization of Related Design System**

Hiroshi SHIMIZU
1st Mechanical Division and Design Division Sr. Patent Attorney

Article:

**Inventive Step of Numerically Limited Inventions**

(What is the role of numerical limitations in mechanical inventions?)

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Opinion

# INFORMATION SECURITY AT PATENT ATTORNEY OFFICES

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## 1. Introduction

It has been a while since the term IoT was coined. Everything is connected to the Internet and various kinds of information are exchanged without people being aware of it. Moreover, personal computers and information and communications equipment are now used routinely at various business operations and business-critical information is routinely saved electronically too.

The Internet crosses borders and the technologies enabling concealment of communications, as represented by Tor, are progressing.

Electronic information is increasing and gaining greater importance, and sophisticated and advanced cybercrimes are increasing the risk of information leakage and damage.

How should a patent attorney office address such a scenario?

## 2. Business Operations of Patent Attorney Offices

For patent, the business operations of a patent attorney office include interviews with inventors, filing patent applications, responding to Office Actions, trial proceedings, and accepting the entrustment of the payment of annual or renewal fees. The patent system employs the first-to-file rule and the inventor is requested to file his/her patent promptly once invented. The patent needs to have novelty and must be strictly confidential until the application is available to the public, in order to build up a portfolio of related applications.

For trademark, on the other hand, while it is not required to have novelty, the trademark is an enterprise's product strategy itself. Therefore, what trademark should be filed for which designated product. etc. must be highly confidential. How to deal with competitor trademarks (a non-use cancellation trial, etc.) is confidential as well.

For design, there is no disclosure rule and an applicant is even allowed to apply for a secret design. Confidentiality is highly needed as is apparent for changes to a new model of a car. The importance of confidentiality of design may be understood even by a comparison with the patent system where the damage caused by information leakage of a patent can be reduced to some extent after the expiration of, at most, a period of eighteen months due to the application laying-open system.

From the standpoint of a patent attorney office as an agency business, the patent attorney office must keep, not their own secret, but secret of clients who are not members of the patent attorney office.

Therefore, causing a security incident means damaging clients. The patent attorney office should, of course, compensate for the damage, but may lose clients' trust. Even the existence of the patent attorney office may be threatened.

Not surprisingly, for clients and for the patent attorney office to continue doing business, high secrecy management is demanded of the patent attorney office.

## ３．Actual Situation of Information Leakage

There is a report titled "２０１８年情報セキュリティインシデントに関する調査報告書 (Investigation Report for Information Security Incidents in 2018)“[1]. This report relates to leakage of personal information, providing a collection and analysis of articles about such incidents and public articles about the incidents released from organizations.

Specific to leakage of personal information, 5.61 million peoples' personal information were leaked in 2018 and the estimated compensation for losses is calculated to be 268.4 billion yen, which is higher than the previous year.

The leakages by cause shows that the first cause is "lost/misplacing," the second cause is "inadvertent operation," the third cause is "unauthorized access," and the fourth cause is "mismanagement." In recent years, unauthorized access, caused by a third-party attack, is increasing.

Next, looking at the leakages by media/route, while most of the information leakages were traditionally from paper media, in recent years, however, information leakage via the Internet, electric mail, and USB memories are increasing. This suggests that a large amount of confidential information is handled in electronic media, resulting in increased damage upon leakage.

What is noticeable here are the causes of leakage. While unauthorized access is increasing, the information leakage caused by human errors by individual staff members, such as lost/misplacing and inadvertent operation, is yet occurring a large number of times.

While people tend to hastily come to conclusion that the security measures are those against unauthorized access from outside attack, dealing with human errors by staff should be understood as important as well.

## ４．International Standards For Security Management

According to JIS, the definition of a standard is:
"Agreements established for things (products resulting from production activities) and other than things (organizations, the span of responsibility, systems, methods, etc.) for purposes of unity and simplification to provide related parties with fair benefits and convenience."

Conventional standards are intended to allow the sharing of industrial products such as screws to enhance social convenience.

In recent years, rather than standards for industrial products themselves, standards such as one called a Management System Standard (MSS) are being developed. Can the management system be expressed as "a series of elements for policies or processes or procedure required to meet the organization goals"?

Representative examples of the MMS include ISO 9000 series, which is an MSS regarding quality and evaluating whether an organization's approach to ensure quality (such as creation of rules, document preparation, and how to run the daily PDCA cycle for quality control management) is in place in the organization.

The MSS can be said to be standardization or normalization of a management approach itself and is in place in recent years from a variety of different standpoints. Compared to conventional standards for industrial products, the MSS may appear heterogeneous.

ISO 27001 is one of the MSS, a standard for establishment of an information security management system (ISMS). The first edition was published in 2005 and revised versions were published in 2013 and 2022.

In the context of increasing security awareness in recent years, over 7,500 ISO 27001 certificates (No. of organizations) have been registered in Japan, which is the second largest number in the world after China.

For the acquisition of the certificate, you need to conform to many requirements, such as creation of rules, document preparation, identification of information assets, and how to run the daily PDCA cycle for information security management.

Conventional standards for industrial products define sizes, errors, whether a product conforms to a standard or not, etc. The MSS, however, is a management system standard and its key is how each operator builds a management system to ensure security that is matching with their actual conditions, while meeting the requirements.

## ５． Fukami Patent Office's Efforts

At Fukami Patent Office, we instituted information security policies in 2016 and have educated our staff for the strict handling of confidential documents.

In addition, we, as an organization, have two registered information security specialists (which is a government certification in the field of information security) with one of them as head of the system management group, to ensure the system security and provide system-related support.

However, as described in Section **3**, looking at the security incidents, it is not only important to address simple system security holes or external attacks, but also to raise the awareness of individual employees to change their behaviors to prevent human errors.

Thus, Fukami Patent Office has built an information security management system and decided to apply for the ISO 27001 certificate so that individual employees are seriously cognizant of ensuring security and acting on it with awareness on a daily basis, with the expectation that staff members would become familiar with and aware of security management and change behaviors through the certificate acquisition process.

We started preparation in 2024 and acquired ISO 27001 certification in December, 2024.[2]


While there were a lot of matters to be addressed, starting with revising the information security policies, the identification of information assets, risk assessment, the preparation of management rules, and the establishment of the management regime for running the PDCA cycle, we believe that, through these efforts, the awareness of security management has been raised among the individual staff members and the risk of human errors has been reduced.

From now on, we are responsible for the continuous operation of the management system and a constant reappraisal to adapt to changing times and changes of our business.

Our efforts for information security have no end and have just started.

## ６． Conclusion

Confidential information is increasing and gaining greater importance, and advanced cybercrimes are increasing the risk of information leakage and damage.

Due to the patent attorney office's peculiarity that we are primarily treating, not only our own secret information, but also clients' secret information, we need to pay heightened attention when dealing with information management.

In recent years, while information leakage due to unauthorized access is increasing, there is a certain number of information leakage incidents attributed to human errors by staff members.

Thus, through the acquisition of the ISO 27001 certificate, Fukami Patent Office has built up its information security management system, prepared countermeasures against information leakage from the standpoint of the information system, and made efforts to raise awareness of staff members to prevent human errors.

From now on, we would like to further develop our management system, continue to take countermeasures against information leakage, and make a further efforts so that our clients can rely on us with confidence.

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[1] https://www.jnsa.org/result/incident/2018.html

[2] https://www.msanet.jp/Certifications/Refer/9rtHsq4696p9e6w5

Article

# Utilization of Related Design System

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## 1. Introduction

Last November, I had the opportunity to attend the Asian Patent Attorneys Association (APAA) General Assembly in Manila for the first time. During the course of meeting with representatives from various countries, I realized that while the related design system of Japan was of great interest to them, it was not well known outside of Japan. With this in mind, in the hope that the related design system will become better known and be more effectively utilized, this article will provide an overview of the system and introduce some registration examples using this system.

## 2. Overview of Related Design System

The related design system (Article 10 of the Design Act) is an exception to the normal design registration requirements of Paragraphs 1 and 2 of Article 9 (prior application) of the Design Act.

According to Paragraph 1 of Article 9 of the Design Act, for two or more designs that are similar to each other, only the design for which a design registration application was

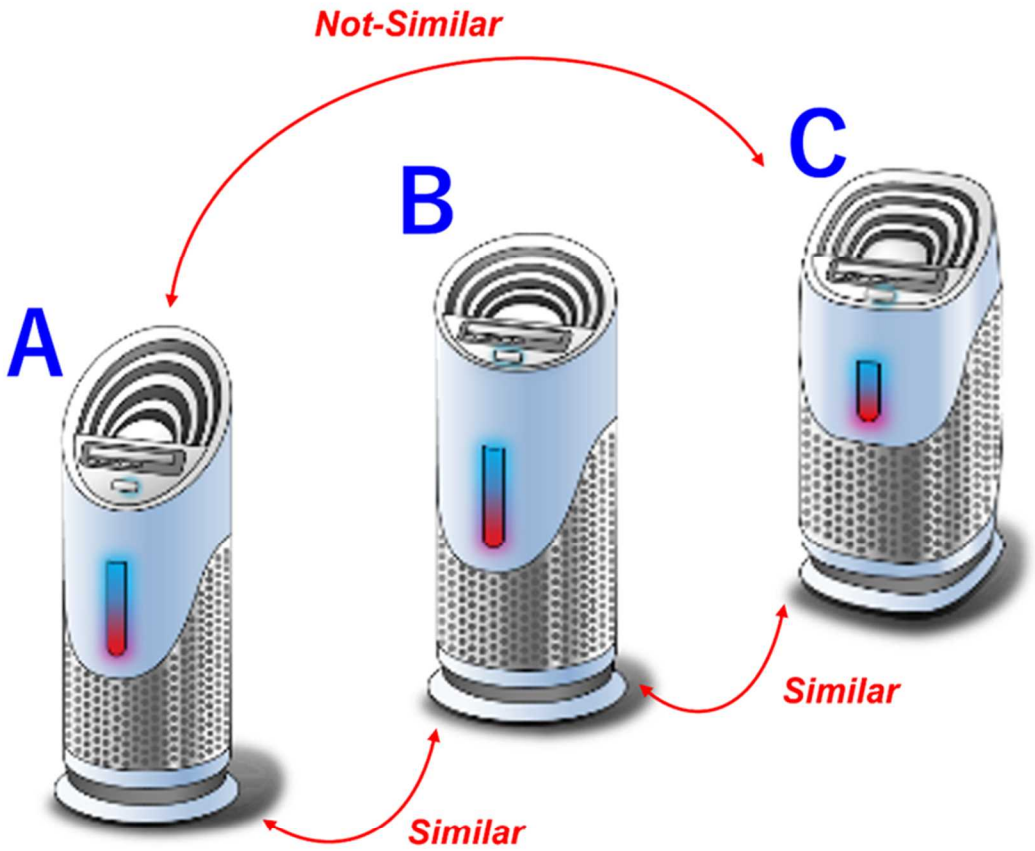
filed first can be registered, and the other designs cannot be registered. Also, according to Paragraph 2 of Article 9 of the Design Act, if two or more designs that are similar to each other are filed on the same date, only one of them can be registered, and the other designs cannot be registered. In this way, Article 9 of the Design Act eliminates duplication of rights for identical or similar designs by adopting a first-to-file system. If the first-to-file system is strictly applied, however, variations of designs that are similar to each other and are created during the same time based on a single design concept cannot be protected by design rights. Therefore, the related design system has been established so that, in a case where the same person continuously creates multiple designs based on a single design concept, the group of later designs that are similar to the earlier design can be protected as exceptions to the first-to-file system. This related design system has become more user-friendly by the 2019 revision of the Design Act in 2020 (in force from April 1, 2020).

The related design system will be described in more detail with reference to FIG. 1. Suppose that, after the application for Design A, Design B, which is similar to Design A, was filed without using the related design system. Under Paragraph 1 of Article 9 of the Design Act, Design B cannot be registered on the ground of the existence of the application or registration of Design A. If Design B has been filed by the same applicant as the applicant of Design A, however, Design B will not be rejected on the ground of the existence of Design A, by treating Design B as a related design with Design A as the principal design, and it can be registered as a related design together with Design A, provided that Design B is a related design with Design A as the principal design.

Under the related design system before the 2019 revision of the Design Act, the related design system was available for only the designs similar to Design A filed on the earliest date, but in the case of a Design C, which was not similar to Design A and was similar only to Design B, design registration could not be granted thereto. In addition, before the 2019 revision of the Design Act, in order to register Design B as a related design with

Design A as the principal design, it was necessary to file the application for Design B before the publication date of the design gazette for Design A.

In contrast, under the current related design system after the 2019 revision of the Design Act, Design C, which is similar only to related Design B, can also be registered as a related design with Design B as the principal design, if it is filed by the same applicant as the applicant of Designs A and B. Furthermore, Designs B and C can be filed as related designs any time prior to the expiration of 10 years after the filing date of the application for Design A.




特許庁 "Guidebook for Overseas Users on Design System in Japan"より引用
*https://www.jpo.go.jp/e/system/design/gaiyo/guidebook.html*

図 1

FIG. 1

The main requirements for obtaining design registration for subsequent Designs B and C using the current related design system are, in addition to the normal design registration requirements (such as that Designs B and C have novelty and creative difficulty over known designs other than Design A), (1) that the applicant of Designs B and C be the same as the applicant of Design A, (2) that Design B be similar to Design A, that Design C be similar to Design B, (3) that the filing dates of application for Designs B and C be prior to the expiration of 10 years after the filing date (priority date) of application for Design A, and (4) that when Design B is registered as a related design right, the design right of Design A, which is the principal design, should not have ceased to exist due to reasons such as failure to pay the registration fees or a trial or appeal decision to invalidate the rights to the related design has become final and binding, and that when Design C is registered as the design right of a related design, the design right of Design B, which is the principal design, should not have ceased to exist due to reasons such as failure to pay the registration fees or a trial or appeal decision to invalidate the rights to the related design has become final and binding (Design Act, Article 10, Paragraph 1).

The duration of design rights for a related design was 20 years from the date of registration of the principal design before the legal revision, but after the legal revision, it has become 25 years from the filing date of application for Design A, which is the fundamental design and the earliest principal design (Design Act, Article 20, Paragraph 2).

In addition, in the related design system, among the applicant's own known designs, designs that are identical or similar to the principal design in the application for design registration are not regarded as known designs in the examination of the design in the application for design registration (Design Act, Article 10, Paragraph 2). In a case where the design in the application for design registration cannot be registered as a related design with the registered design as principal design because it is not similar to

the applicant's registered design, the applicant's known design that is similar to the registered design will be regarded as a known design in the examination of the design in the application for design registration.

For example, in the above case, if Design B is not filed and is published and Design C is subsequently filed, the related design system is not available for Design C, which is not similar to Registered Design A, and Design B is regarded as a known design in determination of the novelty and creative difficulty of Design C. Therefore, Design C cannot be registered as a design on the ground that it is similar to Design B. On the other hand, by registering Design B as a related design of Registered Design A, it is possible to leave the possibility that Design C will be registered as a related design of Design B. It is also possible to file an application for Design B on the same date as Design C, at the time when it becomes necessary to obtain a right for Design C.

In this way, by actively using the current related design system, it is possible to construct a design right network by successively obtaining rights for multiple designs created based on the same concept, without narrowing the possibility of registering a group of designs that will be created in the future based on the same concept.

## 3. Introduction of Registration Examples Using Related Design System

Three registration examples will now be described as the utilization examples of the related design system.

The first example is the use of the related design system in an international design registration application based on the Geneva Act of the Hague Agreement (see FIG. 2).

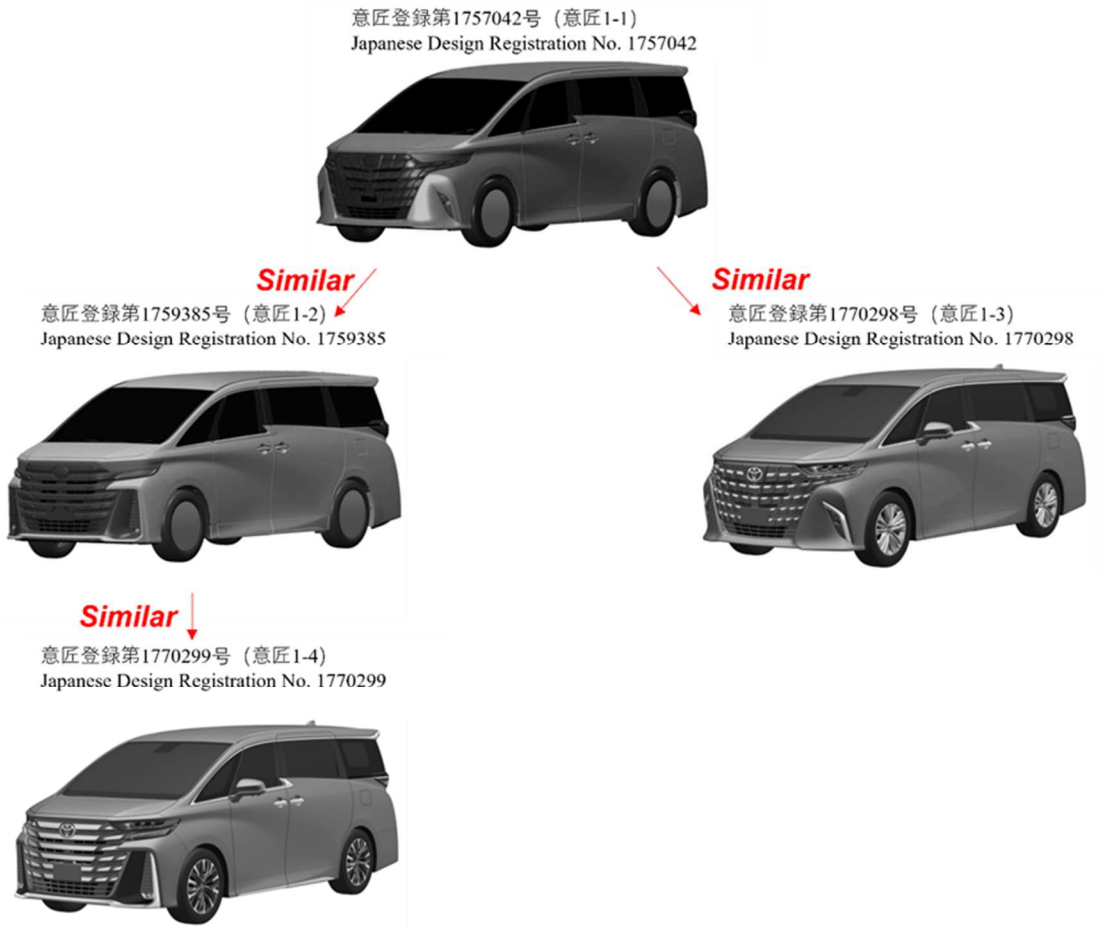



図２

FIG. 2

Japanese Design Registration No. 1757042 (Design 1-1) has been registered as the principal design, each of Japanese Design Registration No. 1759385 (Design 1-2) and Japanese Design Registration No. 1770298 (Design 1-3) has been registered as a related design with Design 1-1 as the principal design, and Japanese Design Registration No. 1770299 (Design 1-4) has been registered as a related design with Design 2 as the principal design. In this case, Designs 1-1 and 1-2 were first filed as a single international design registration application. Design 1-2 was filed as a related design with Design 1-1 as the principal design in the international design registration application, and was registered internationally as a related design with Design 1-1 as the principal design. Designs 1-1 and 1-2 were registered without receiving a notice of grounds of

rejection from the Japan Patent Office. Furthermore, before the registration of the design rights for Designs 1-1 and 1-2, Design 1-3 was filed without using the related design system, and Design 1-4 was filed as a related design with Design 1-3 as the principal design, on the same date by the same applicant in Japan as the international design registration application. Design 1-3 was rejected on the ground that it was similar to Design 1-1 but was registered after an amendment was made to treat it as a related design with Design 1-1 as the principal design. Design 1-4 was rejected on the ground that it was similar to Design 1-2 but was registered after an amendment to change the principal design from Design 1-3 to Design 1-2.

As in this case, the related design system is also available for designs filed in Japan via the Hague Agreement. Specifically, the related design system can be used by specifying a design that is to be the related design and a design to be the principal design in item (66) "Data relating to the main design or to the principal design" of the application form for an international registration design application. Also, if an international design registration application includes multiple designs that are similar to each other, it is possible to reduce the risk of receiving a notice of grounds of rejection by using the related design system at the time of filing of the international design registration application, as in Designs 1-1 and 1-2. On the other hand, it is possible to change whether or not to use the related design system by making an amendment when receiving a notice of grounds of rejection or responding to the notice of grounds of rejection, as in Designs 1-3 and 1-4. In view of the fact that the duration of design rights is limited if the later design is registered as a related design, it is also effective to make amendments to use the related design system as necessary at the examination stage without admitting similarity to the earlier design at the time of filing of the later design.

Next, the second example is a case where multiple designs are successively registered by making amendments to use the related design system at the examination stage in Japan for each of the three international design registration applications with the same priority

date (see FIG. 3).

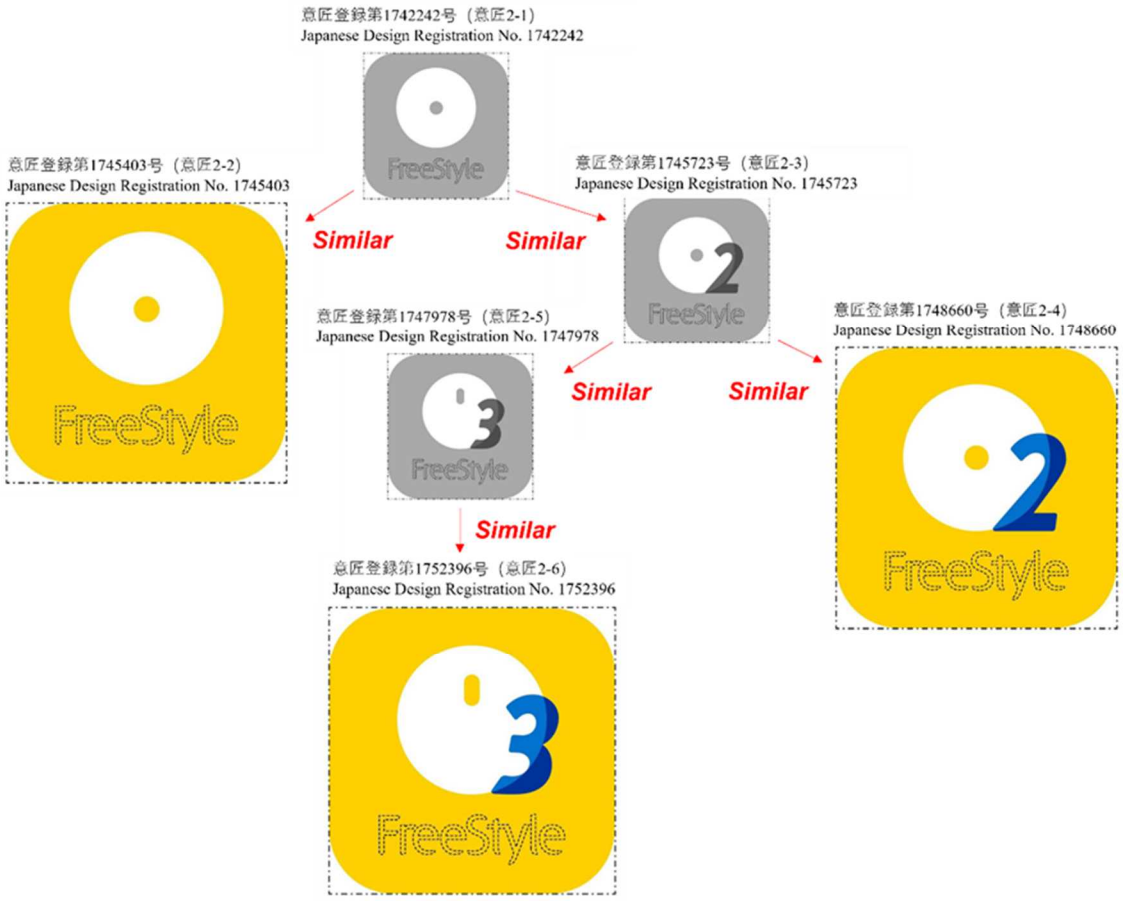



図 3

FIG. 3

Japanese Design Registration No. 1742242 (Design 2-1) has been registered as the fundamental design, each of Japanese Design Registration No. 1745403 (Design 2-2) and Japanese Design Registration No. 1745723 (Design 2-3) has been registered as a related design with Design 2-1 as the principal design, each of Japanese Design Registration No. 1747978 (Design 2-4) and Japanese Design Registration No. 1748660 (Design 2-5) has been registered as a related design with Design 2-3 as the principal design, and Japanese Design Registration No. 1752396 (Design 2-6) has been registered as a related design with Design 2-5 as the principal design. Initially, Design 2-1 and Design 2-2 were filed as one international design registration application, Design 2-3 and Design 2-4 were filed as another international design registration application, and Design 2-5 and Design 2-6

were filed as still another international design registration application on the same date. Each of the three international design registration applications was rejected, and when responding to each of the rejections, each application was divided for each figure and amendments were made to use the related design system, resulting in the registration of six design rights.

As in this case, the related design system is also effective for building a design network of multiple designs included in multiple applications with the same priority date or filing date.

The third and final example is a case in which a design filed after the 2020 legal revision was registered by treating it as a related design with the registered design before the legal revision as the principal design.

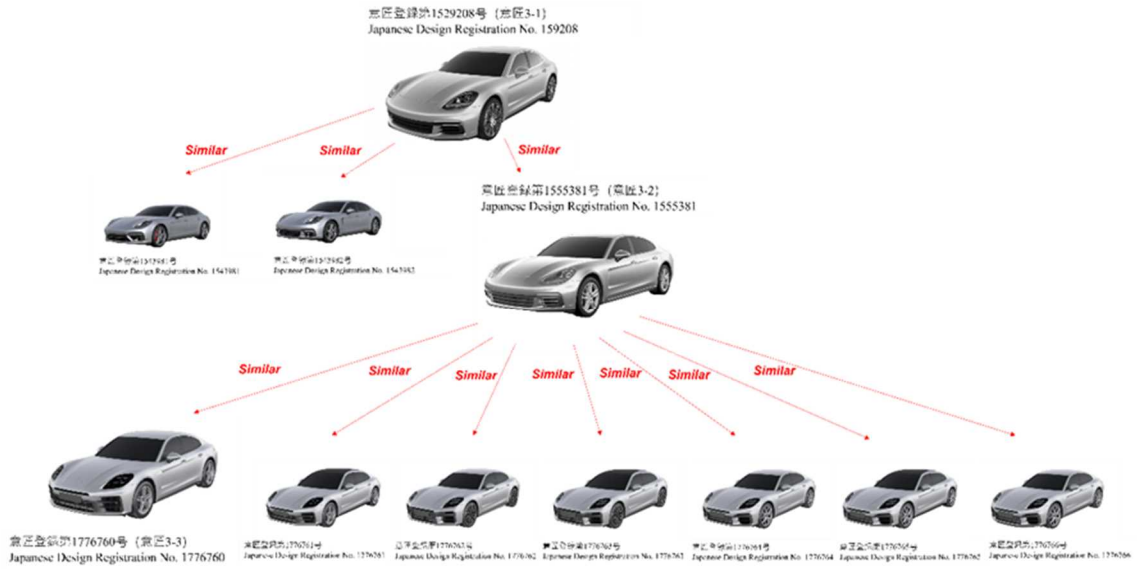



図4

FIG. 4

Japanese Design Registration No. 1529208 (Design 3-1) has been registered as the fundamental design, Japanese Design Registration No. 1555381 (Design 3-2) has been registered as a related design with Design 3-1 as the principal design, and seven designs including Japanese Design Registration No. 1776760 (Design 3-3) have been registered as related designs with Design 3-2 as the principal design.

In this example, Design 3-1 and Design 3-2 were filed via the Paris Convention before the above-mentioned amendment, and Design 3-2 was registered as a related design with Design 3-1 as the principal design using the related design system before the legal revision. After the legal amendment, the seven designs including Design 3-3 were filed for international design registration without using the related design system. These seven designs were amended to related designs with Design 3-2 before the legal revision as the principal design when responding to the notice of grounds of rejection, and were registered. The priority date of these seven designs, January 24, 2023, was prior to the expiration of 10 years after the priority date of Design 3-1, January 24, 2014. The duration of design rights for the seven designs to which the revised Design Act applies is 25 years from the filing date of application for Design 3-1, which is longer than the duration of design rights for Design 3-1 and Design 3-2 (20 years from the registration date of Design 3-1), to which the Design Act before the legal revision is applied.

In other words, for designs that are variations of registered designs of Japan before the legal revision and that have not passed 10 years from the priority date, even if these designs are registered using the related design system, the design rights for the variations can last longer than the principal design registered before the legal revision.

## 4. Summary

Whether or not to use the related design system can be decided after filing an application for design registration, taking into account the results of the examination. The related design system can also be used in a case where a design registration application has been filed in Japan based on a design registration application filed in a country that does not have a related design system, or where Japan is designated in an international design registration application without using the related design system. It is hoped that the related design system of Japan will be used effectively by companies around the world that are aiming to strengthen their competitiveness by continuously

using a consistent design concept to create their own unique worldview.

Article

# Inventive Step of Numerically Limited Inventions

(What is the role of numerical limitations in mechanical inventions?)

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## 1. Introduction

A "numerical limitation" in a "numerically limited invention" is described as one example of "specific expressions" (an expression specifying the invention by numerical limitation) in Part III, Chapter 2, Section 4 of the Examination Guidelines for Patent and Utility Model in Japan[*1]. A "numerical limitation" is commonly used to define various dimensions and characteristics of a device, for example, in mechanical inventions.

In the determination of inventive step of a numerically limited invention, when a difference between a publicly known invention (main cited prior art) and the claimed invention lies solely in the numerical limitation, the "numerical limitation" must be more than merely optimizing a range of numerals or making the same appropriate.

In mechanical inventions, which are mainly concerned with the structure of a product, there are cases where functions and effects of a "numerical limitation" configuration are highly predictable, in which case the inventive step is likely to be denied on the grounds that "the numerical limitation is merely a matter of design variation." There are also cases where a "numerical limitation" configuration contributes significantly to the

affirmation of inventive step of a mechanical invention. The question of how to make use of the "numerical limitation" to obtain patents for inventions in this field is indeed important.

In this article, we will review some of the recent court decisions and explore the role of numerical limitations in the determination of inventive step of mechanical inventions. We will also examine the matters to consider in order to obtain patent rights for numerically limited inventions.

## 2. Inventive step of numerically limited inventions

The following explanation is found in "6.2 Determination of an inventive step" of "6. Expression Specifying the Invention by Numerical Limitation" in Part III, Chapter 2, Section 4 of the Examination Guidelines for Patent and Utility Model in Japan:

> **Where there is a statement about specifying an invention by use of a numerical limitation in a claim, the claimed invention usually has no inventive step when a point of difference between a main cited prior art and the claimed invention lies solely in the numerical limitation. The reason for this is that experimentally optimizing a range of numerals or making the same appropriate can be said to be exercise of ordinary creative activity of a person skilled in the art.**
>
> **However, when the claimed invention yields an effect of comparison with the cited prior art fulfilling all requirements (i) to (iii) provided below, the examiner shall determine that such an invention for limiting numerical values has an inventive step.**
>
> **(i) The effect is advantageous within a limited range of numerical values although it is not disclosed in evidence of the prior art.**
>
> **(ii) The effect is different in nature from an effect yielded by the prior art, or remarkably superior although it is the same as the effect of the prior art (namely, the advantageous effect exhibits prominence).**

(iii) The effect is not one which can be predicted by a person skilled in the art from the state of the art as of filing.

(snip) where … an advantageous effect is different in nature, it is not required that numerical limitations have the critical significance.

In other words, when the difference between the publicly known invention (main cited prior art) and the claimed invention lies solely in the "numerical limitation," it is required that the "numerically limited invention" achieve the "effect different in nature" from the effect of the publicly known invention (the critical significance of the numerical limitation is not necessarily required) or the "effect remarkably superior although it is the same" as the effect of the publicly known invention (the critical significance of the numerical limitation is required).

3. A case where inventive step of a "numerically limited invention" was denied for lack of "critical significance"

Intellectual Property High Court Decision, May 22, 2018 (2017 (Gyo-Ke) No. 10146, "Light-directing film" Case)

This is a litigation case against a board decision of rejection rendered by the JPO, where it was determined whether the "numerical limitations" could have been easily conceived. The court (IP High Court) upheld the board decision of rejection rendered by the JPO.

Claim 1 (amended on July 3, 2015) of the subject application (Japanese Patent Application No. 2013-504971) reads as follows:

[Claim 1]

A light directing film comprising a first structured major surface and an opposing second major surface, (snip)

a bonding portion primarily for bonding the light directing film to a surface, the bonding portion being disposed on and between the plurality of first side facets and comprising:

a plurality of second side facets, each second side facet making an angle with the plane of the light directing film greater than about 70 degrees;

a second base defined by the plurality of second side facets and having a second minimum dimension less than about 10% of the first minimum dimension; and

a second maximum height, a ratio of the second maximum height to the second minimum dimension being at least about 1.5.

Note: The "numerical limitations" related to the issues are underlined

As described above, the present invention explicitly describes numerical limitations on the shape of the "bonding portion," and it was determined whether a configuration pertaining to these numerical limitations could have been easily conceived. Each numerical range pertaining to these numerical limitations is not specifically described in the cited invention (primary cited invention) and cited reference 2 (secondary cited invention) in this case.

The court (IP High Court) found, however, that the numerical ranges for the shape of the "bonding portion" in the invention of the present application did not have any critical technical significance, since "each of these numerical ranges is merely described as one of the numerous listed numerical ranges in the specification of the present application, and no basis or meaning for the limitation to these numerical ranges is provided whatsoever in the invention of the present application," and concluded that it was reasonable to say that all of the numerical ranges were matters of design variation that are adjusted as appropriate by a person skilled in the art.

Indeed, the patent specification of the present application merely describes each of the above numerical ranges as one of the numerous options listed, and provides no specific

description to support the critical technical significance. There are also no specific descriptions of the mechanism by which the effect of "capable of being securely attached to a neighboring surface with no or very little loss in optical properties" (paragraph [0002]) is achieved when these numerical ranges are selected.

[0039](Each second side facet making an angle with the plane of the light directing film greater than about 70 degrees)

(snip) In some cases, each side facet of a bonding portion makes an angle with the plane of the light directing film that is greater than about 65 degree, or greater than about 70 degrees, or greater than about 75 degrees, or greater than about 80 degrees, or greater than about 85 degrees.

[0041] (A second minimum dimension less than about 10% of the first minimum dimension)

(snip) in some cases, the minimum dimension $d_2$ is substantially less than the minimum dimension $d_1$. For example, in such cases, the minimum dimension $d_2$ is less than about 20%, or less than about 18%, or less than about 16%, or less than about 14%, or less than about 12%, or less than about 10%, or less than about 9%, or less than about 8%, or less than about 7%, or less than about 6%, or less than about 5%, or less than about 4%, or less than about 3%, or less than about 2%, or less than about 1%, of the minimum dimension $d_1$.

[0042] (A ratio of the second maximum height to the second minimum dimension being at least about 1.5)

In some cases, bonding portions 170 have aspect ratios that are greater than 1. For example, in some cases, the ratio of the maximum height $h_2$ of bonding portion 170 to the second minimum dimension $d_2$ of the bonding portion is greater than 1. For example, in such cases, the ratio $h_2/d_2$ is at least about 1.2, or at least about 1.4, or at least about 1.5, or at least about 1.6, or at least about 1.8, or at least about 2, or at least about 2.5, or at

least about 3, or at least about 3.5, or at least about 4, or at least about 4.5, or at least about 5, or at least about 5.5, or at least about 6, or at least about 6.5, or at least about 7, or at least about 8, or at least about 9, or at least about 10, or at least about 15, or at least about 20.

Note: The portions related to the "numerical limitations" in claim 1 are underlined

In this case, the issue was whether there was a motivation to combine the primary cited invention with the secondary cited invention, and the court (IP High Court) recognized the existence of the motivation for the combination. In a situation where the existence of the motivation to combine the primary cited invention with the secondary cited invention is recognized, it would be challenging to argue for the inventive step of the present invention based solely on the numerical limitations on the shape of the "bonding portion." The fact that the numerical limitations in the present invention were found to be "matters of design variation that are adjusted as appropriate by a person skilled in the art" seems to be consistent with the previous description in the Examination Guidelines.

4. A case where a finding of disclosures of "numerical limitations" in cited inventions was overturned

Intellectual Property High Court Decision, March 27, 2023 (2022 (Gyo-Ke) No. 10029, "Antiglare film" Case)

This is a litigation case against a decision to revoke a patent rendered by the JPO (case of an opposition to a granted patent), where inventive step of a "numerically limited invention" was affirmed and the revocation decision rendered by the JPO was rescinded.

Claim 1 (amended in a Request for Correction of November 15, 2021) of the subject patent (Japanese Patent No. 6721794) reads as follows:

[Claim 1]

An antiglare film comprising an antiglare layer having: a haze value in a range from 60% to 95%; an internal haze value in a range from 0.5% to 8.0%; and a standard deviation of luminance distribution of an organic EL display having a pixel density of 441ppi in a state, where the antiglare film is mounted on a surface of the display, in a range of from 0 to 10, when an adjustment is made such that image data as a gray scale image with an 8-bit gradation display and an average luminance of 170 gradations is obtained.

Note: The "numerical limitations" related to the issues are underlined

As described above, one of the issues in this case was whether the numerical limitations on the "haze values" of the "antiglare film" could have been easily conceived. The following table shows a comparison of the present invention with a cited invention (Japanese Patent Laying-Open No. 2009-244465) and cited reference 2 (Japanese Patent Laying-Open No. 2015-172837) with regard to the configuration pertaining to this issue (Difference 1-1):

| | Haze value (Overall) | Internal haze value | Surface haze value |
|---|---|---|---|
| Present invention | from 60% to 95% | from 0.5% to 8.0% | – |
| Cited invention (Primary cited invention) | 60% or more | Unknown **(Difference 1-1)** | – |
| Cited reference 2 (Secondary cited invention) | 25% to 60% | 5% to 30% | 22% to 40% |

With regard to Difference 1-1 above, the following determination had been made in the revocation decision (first decision) rendered by the JPO:

The cited invention is excellent in anti-glare property and image clarity and effectively prevents sparkle as well, in which the haze value (%) is 60%, and definition (sparkle) is

A at 106 ppi, A at 144 ppi, and B at 212 ppi. A person skilled in the art who has read the statement of [0035] of cited reference 2 or [0029] of Japanese Patent Laying-Open No. 2015-172835 (hereinafter referred to as a "well-known document A1") could understand that the internal haze is preferably 5 to 30%, that by setting the internal haze to 5% or more, sparkle can be easily prevented through a synergistic effect with surface asperities, and that by setting the internal haze to 30% or less, a reduction in resolution of ultra high definition display elements can be prevented. Since sparkle can be prevented through a synergistic effect with surface asperities and a reduction in resolution (which corresponds to clarity) of ultra high definition display elements can be prevented in the cited invention "having a haze value (%) of 60%," a person skilled in the art could have easily set the internal haze to 5% …

Note: Excerpt from the second decision

With regard to this determination, the court (IP High Court) held that "The surface haze value of cited reference 2 specifies the asperity shape which is technically indivisible as one with sparkle. Thus, it cannot be construed that the statement of cited reference 2 suggests that sparkle is adjusted independently of the surface haze value." by reference to the statement of the [Means for Solving the Problems] section and the like in cited reference 2, and determined that "the (overall) haze values of the cited invention and cited reference 2 are common when the (overall) haze value is 60%. In present invention 1, a value obtained by subtracting the internal haze value from the (overall) haze value corresponds to the external haze value (surface haze value) … Thus, with regard to the cited invention in which the (overall) haze value is 60%, the internal haze value suggested by cited reference 2 which states an optical sheet having a surface haze value of 22 to 40% is an internal haze value of 20 to 38% … which can be obtained when the (overall) haze value is 60%. Then, even if the cited invention is combined with cited

reference 2, a person ordinarily skilled in the art cannot easily conceive of setting the internal haze value to less than 20%."

Namely, in the revocation decision (first decision) rendered by the JPO, the disclosure of the "internal haze value from 5% to 30%" had been determined independently of "the surface haze value" of cited reference 2. The court found, however, that the "surface haze value" (22 to 40%) of cited reference 2 could not be ignored when considering the mechanism for solving the problems in the invention of cited reference 2, and that cited reference 2 only disclosed the "internal haze value" of 20 to 38% (60% minus 40 to 22%) under the assumption that the "(overall) haze value" is 60%, and denied that the configuration pertaining to Difference 1-1 could have been easily conceived.

Thus, it may be possible to overcome the seemingly difficult cited reference by carefully reading the technical matters interpreted from the entirety of cited reference 2 without focusing only on the external description (internal haze value: 5 to 30%) of cited reference 2.

## 5. A case where inventive step was affirmed based on combination with a configuration other than "numerical limitation"

Intellectual Property High Court Decision, April 22, 2024 (2023 (Gyo-Ke) No. 10091, "Barrier laminate" Case)

This is also a litigation case against a decision to revoke a patent rendered by the JPO (case of an opposition to a granted patent), where inventive step of a "numerically limited invention" was affirmed and the revocation decision rendered by the JPO was rescinded.

Claim 1 (amended in a Request for Correction of December 28, 2022) of the subject patent (Japanese Patent No. 6902231) reads as follows:

[Claim 1]

A barrier laminate for a boiling or retorting process comprising: a multilayer substrate; an evaporated film; and a barrier coating layer on the evaporated film, wherein

the multilayer substrate includes at least a polypropylene resin layer and a surface coating layer,

the polypropylene resin layer is subjected to a stretching process,

(snip)

the barrier coating layer is a gas barrier coating film consisting of a resin composition of a metal alkoxide and a water-soluble polymer, or a gas barrier coating film consisting of a resin composition of a metal alkoxide, a water-soluble polymer, and a silane coupling agent, and

a ratio of silicon atoms to carbon atoms (Si/C) on a surface of the gas barrier coating film measured by X-ray photoelectron spectroscopy (XPS) is 0.90 or more and 1.60 or less.

Note: The "numerical limitation" and "limitation of use application" related to the issues are underlined

As described above, one of the issues in this case was whether it could have been easily conceived to combine the "numerical limitation" with the "limitation of use application." The following table shows a comparison of the present invention with the primary cited reference (Exhibit Ko 3: Japanese Patent Laying-Open No. 2009-154449) and a secondary cited reference (Exhibit Ko 4: Japanese Patent Laying-Open No. 2017-211082) with regard to the configuration pertaining to the issues (Differences 1-2 and 1-3) in this case:

| | Difference 1-2<br>(Numerical limitation) | Difference 1-3<br>(Technical field or application) |
|---|---|---|
| Present invention | "A ratio of silicon atoms to carbon atoms (Si/C) on a surface of the gas barrier coating film measured by X-ray photoelectron spectroscopy (XPS) is 0.90 or more and 1.60 or less" | "for a boiling or retorting process" |
| Exhibit Ko 3 invention<br>(Primary cited reference) | "The organic-inorganic hybrid barrier layer includes carbon, oxygen and silicon at ratios of 15 to 50%, 30 to 65% and 5 to 30%, respectively, as analyzed by X-ray photoelectron spectroscopy for atomic percentages" | "can be used as a packaging material for food and the like" |
| Matters described in Exhibit Ko 4<br>(Secondary cited reference) | "The ratio of metal atoms to carbon atoms (the number of metal atoms/the number of carbon atoms) in the atoms forming the overcoat layer is in the range of 0.8 or more and 1.6 or less" | "relates to an outer packaging material for a vacuum insulation material and the like to reduce energy consumption of a device such as an electrical product" |

With regard to Differences 1-2 and 1-3 above, the court (IP High Court) held that Differences 1-2 and 1-3 should be examined together in view of the technical significance of the numerical range, and determined that there was no motivation to apply the matters described in Exhibit Ko 4 (secondary cited invention) to Exhibit Ko 3 invention (primary cited invention).

In the present invention, the ratio of silicon atoms to carbon atoms on the surface of the barrier coating layer is set to the specific range so that the decrease in gas barrier properties can be reduced even when a boiling or retorting process is performed, and the present invention can be said to have technical significance of providing a barrier laminate for a boiling or retorting process that has high gas barrier properties.

(snip)

While Exhibit Ko 4 has an object of providing an outer packaging material for a vacuum insulation material and the like that can maintain its thermal insulation performance for a long period of time even in a high-temperature and high-humidity environment, it only assumes a high-temperature and high-humidity "environment" … There is no description on the premise of a retorting or boiling process in Exhibit Ko 4. Exhibit Ko 3 suggests in [0044] that … too little carbon makes the film brittle, whereas Exhibit Ko 4 mentions in [0111] … after describing the ratio of metal atoms to carbon atoms (the number of metal atoms/the number of carbon atoms) … that an excessively large number of carbon atoms relative to metal atoms increases the brittleness of the overcoat layer, resulting in a decrease in gas barrier properties, which is the exact opposite of the above description in [0044] of Exhibit Ko 3.

Then, even if a person skilled in the art conceived of using the food packaging material of Exhibit Ko 3 invention in a boiling or retorting process application, in light of the facts that the ratio of metal atoms in the atoms forming the overcoat layer in Exhibit Ko 4 has nothing to do with whether the gas barrier properties are maintained even after heating, and that Exhibit Ko 4 includes a description of the ratio of carbon atoms and metal atoms and the brittleness of the film, which is the exact opposite of the description of Exhibit Ko 3, it would certainly be unreasonable to determine that there was a motivation to apply Exhibit Ko 4 invention to Exhibit Ko 3 invention by focusing on the description of the overcoat layer and the inorganic layer in the film with the overcoat layer from the laminate of Exhibit Ko 4 related to an outer packaging material for a vacuum insulation material,

**which is different in technical field as well as laminated structure from Exhibit Ko 3 invention, and then noting the ratio of metal atoms to carbon atoms (the number of metal atoms/the number of carbon atoms) in the overcoat layer. Thus, the decision in this case is erroneous.**

As described above, the court first found that the combination of the configuration pertaining to Difference 1-2 (the numerical limitation on "the gas barrier coating film") and the configuration pertaining to Difference 1-3 (the technical field or application of "for a boiling or retorting process") between the present invention and Exhibit Ko 3 invention (primary cited invention) had technical significance, and considered these two configurations together in the determination of easy conceivability.

The court also indicated that the technical field and the specific configuration associated with it of the secondary cited invention (Exhibit Ko 4) were different from those of the primary cited invention (Exhibit Ko 3). Namely, in view of the facts that, with regard to the limitation of use application ("for a boiling or retorting process") pertaining to Difference 1-3, the technical field or application (an outer packaging material for a vacuum insulation material and the like to reduce energy consumption of a device such as an electrical product) of the secondary cited invention (Exhibit Ko 4 invention) was completely different from the technical field or application (a packaging material for food and the like) of the primary cited invention (Exhibit Ko 3 invention), and that the disclosures of the primary cited invention (Exhibit Ko 3 invention) and the secondary cited invention (Exhibit Ko 4 invention) were exactly opposite with regard to the relationship between "the number of carbon atoms" and "the decrease in gas barrier properties," the existence of a motivation to combine the primary cited invention with the secondary cited invention was denied.

Thus, even if a matter that may correspond to the numerical limitation of the present invention is described in the secondary cited invention, it may be possible to deny the

existence of a motivation to apply the secondary cited invention to the primary cited invention by examination of the numerical limitation together with other configurations (the limitation of use application in this case), to overcome the rejection for lack of inventive step based on the combination of these cited inventions.

## 6. Role of numerical limitations in determination of inventive step

If the relationship between the configuration pertaining to the numerical limitation and the mechanism for solving the problems of the present invention is not clear as in the "Light-directing film" Case (see 3. above), the technical significance of the numerical limitation is less likely to be acknowledged, resulting in a determination that the configuration pertaining to the numerical limitation could have been easily conceived. If the configuration pertaining to the numerical limitation directly contributes to solving the problems of the present invention, on the other hand, the technical significance of the numerical limitation is more likely to be valued, and can be considered favorably in the determination of inventive step. The technical significance of a numerical limitation may be acknowledged not only for the configuration itself pertaining to the numerical limitation, but also through examination together with other configurations as in the "Barrier laminate" Case (see 5. above).

Even if a numerical range corresponding to the numerical limitation of the present invention is externally specified in a prior art document, it may be possible to argue that the numerical range is not described as a technical matter that can correspond to the configuration pertaining to the numerical limitation of the present invention, as in the "Antiglare film" Case (see 4. above). It would therefore be desirable to thoroughly examine the prior art document.

## 7. Matters to consider with regard to numerical limitations

Conditions of measurement for a numerical limitation should be explicitly described in the specification unless the measurement conditions can be said to be obvious based on common technical knowledge at the time of filing of the application. For example, if there may be multiple conditions of measurement, and the conclusion of whether an article satisfies the numerical ranges of the present invention depends on which measurement condition is adopted, then it may be determined that the description requirement (the support requirement, the clarity requirement, etc.) is not satisfied. There was a case, for example, where it was determined that the enablement requirement was violated because the conditions for measurement of an "average particle size" were not specified[*2]. The lack of clarity of conditions for measurement for the numerical limitation may also work unfavorably for the right holder in the discussion of whether the subject matter in dispute falls within the technical scope. Such risks tend to manifest themselves particularly in the enforcement phase after the grant of a patent.

From the viewpoint of proving infringement, it is necessary to fully consider whether the numerical limitation can be measured using commercially available products and the like, before filing the application. A numerical limitation that cannot be ascertained based on externally available information may be information that should not be included in the patent application in the first place.

With regard to the technical significance of a configuration pertaining to a numerical limitation, evaluation of whether the configuration contributes to solving the problems of the present invention is made in consideration of the description in the specification. In that sense, it would be desirable for the specification to specifically describe the mechanism by which the specific numerical range achieves the functions and effects of the present invention.

There are presumably many cases where the technical significance of a numerical limitation is recognized by examination of a configuration pertaining to the numerical

limitation together with other configurations, as in the "Barrier laminate" Case (see 5. above). In drafting the specification, it would be sensible to describe a numerical limitation, which is a publicly known numerical range by itself but serves as a basis for other configurations of the present invention and may achieve the functions and effects in cooperation with such other configurations, in the specification so that the numerical limitation can be utilized as a useful limiting element in future discussions of inventive step.

From the viewpoint of increasing the number of options for future amendments, it is recommended to describe stepped numerical ranges in the specification, such as "XX or more, preferably YY or more, more preferably ZZ or more." However, describing too broad a numeral range should be avoided as some observers say that such description may cause the technical significance of the numerical limitation to be evaluated low[*3]. When describing stepped numerical limitations, it is still desirable to explicitly state the mechanism by which the configuration pertaining to the numerical limitation leads to the functions and effects of the present invention.

When filing an application in a country/area where the limitation of use application is not easily recognized as a difference in an invention of a device, such as the U.S., it would be effective to introduce numerical limitations corresponding to the device into the specification.

When filing an application in a country/area where amendments are usually subject to strict requirements, such as the EPO, it would be worth considering specifying numerical limitations, which serve as future limiting elements in an independent claim, not only as one example but in one dependent claim from the time of filing of the application, for example.

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1. https://www.jpo.go.jp/e/system/laws/rule/guideline/patent/tukujitu_kijun/document/index/03_0204_e.pdf

2. Tokyo High Court Decision, March 30, 2005 (2003 (Gyo-Ke) No. 272, "Linear low-density polyethylene composite film" Case)
3. JPO, Trial and Appeal Practitioner Study Group Report 2023 (Summary), page 39, "(a) Listing numerical ranges in a specification"
[https://www.jpo.go.jp/resources/shingikai/kenkyukai/document/sinposei_kentoukai/2023_houkokusyo_youyaku_e.pdf]