Note: When any ambiguity of interpretation is found in this provisional translation, the Japanese text shall prevail.

## Chapter 2 Novelty and Inventive Step

This chapter will describe the provisions of Patent Act Article 29(1) regarding inventions lacking novelty and Article 29(2) regarding inventions lacking inventive step.

## 1. Novelty

## Patent Act Article 29(1) Note

An inventor of an invention that is industrially applicable may be entitled to obtain a patent for the said invention, except for the following cases:

(i) inventions that were publicly known in Japan prior to the filing of the patent application;(ii) inventions that were publicly worked in Japan prior to the filing of the patent application; or

(iii) inventions that were described in distributed publication in Japan or a foreign country prior to the filing of the patent application.

Note: The following are provisions applied to the applications filed on or after January 1, 2000.

#### Patent Act Article 29(1)

An inventor of an invention that is industrially applicable may be entitled to obtain a patent for the said invention, except for the following cases:

(i) inventions that were publicly known in Japan or a foreign country prior to the filing of the patent application;

(ii) inventions that were publicly worked in Japan or a foreign country prior to the filing of the patent application; or

(iii) inventions that were described in a distributed publication, or inventions that were made publicly available through an electric telecommunication line in Japan or a foreign country prior to the filing of the patent application.

(Reference: See Chapter 5 for the inventions publicly available through electric telecommunication line (Patent Act Article 29(1)(iii))).

## 1.1 Purpose of the Provision of Patent Act Article 29(1)

The Patent System is provided to grant an exclusive right to the inventor in exchange for disclosing the invention; therefore, the invention which deserves the patent should be novel. Patent Act Article 29(1)(i) to (iii) defines the scope of inventions lacking novelty by providing types of such inventions.

## 1.2 Patent Act Article 29(1)(i) - (iii)

## **1.2.1 Prior to the Filing of the Patent Application**

The expression "prior to the filing of the patent application" represents a definite time, even hours and minutes, of the filing, which is different from the expression "prior to the date of filing of a patent application."

For example, when an invention that has been publicly been known in the morning in Japan is filed for application in the afternoon of that same day, the invention is deemed to be the

Original Japanese text was revised in 6.2006 English translation was updated in 4.2012 one publicly known in Japan prior to the filing of the patent application. Also, when an invention that has been distributed abroad through publications in the morning in Japan is filed in the afternoon of that same day, the invention is deemed to be the invention described in a distributed publication in a foreign country prior to the filing of the patent application.

## 1.2.2 Inventions that were Publicly Known

The expression "inventions that were publicly known" represents an invention whose content becomes known to unspecific persons as an art without an obligation of secrecy.

When persons who have confidentiality disclose an invention to other persons who are not aware of its secrecy, that invention is included in "inventions that were publicly known" irrespective of the inventor's or applicant's intent to keep it secret.

For example, an invention published in an article, such as in an academic journal, is not included in inventions that were publicly known even after it has been submitted to the journal, until the article is publicly disclosed, since such article is hardly disclosed to unspecified persons when submitted.

## 1.2.3 Inventions that were Publicly Worked

The expression "inventions that were publicly worked" represents an invention which has been worked Note <sup>3</sup> in a situation where the content of the invention is or could be publicly known Notes 1 & 2.

Note 1: The expression "a situation where the content of the invention is publicly known" means, for example, a situation where a person skilled in the art may easily understand the content of the invention by observing the manufacturing process of the invention at a plant opened to unspecified persons.

Note 2: The expression "a situation where the content of the invention could be publicly known" means, for example, a situation where unspecified persons could understand the invention by receiving information of the invention, when a person visiting a plant to see a manufacturing operation cannot understand one part of the manufacturing process from the appearance of the apparatus and the part of the process is necessary to know the invention as a whole, the person is in a situation where he is able to see the inside of the apparatus or to receive an explanation of the inside from plant workers who would not refuse explanation.

Note 3: An invention that is publicly known by working of the invention is included in "inventions that were publicly known " under Patent Act Article 29(1)(i). Therefore, even when it is not acknowledged as an invention that has been publicly known, the invention is considered to be in a situation where the invention is publicly worked under Patent Act Article 29(1)(i).

## **1.2.4 Inventions Described in Distributed Publications**

## (1) Distributed publications

The term "publications" includes documents, drawings or other similar media for the communication of information, which are duplicated to disclose the content to the public through the distribution of the publications.

The term "distribution" means a situation where unspecified persons could read such publications regardless of whether or not someone actually does read the publications.

[Example 1] The filed invention of the appellant should fall under the previous Patent Act 4(2)

since the French patent specification that has the same content as the claimed invention was received by the JPO Industrial Property Library prior to the filing of the application for patent of the invention, regardless of whether or not the invention was publicly disclosed at the time of filing the application.

(Reference: Decision by the Supreme Court, Third Petty Bench, January 29, 1963 [Showa 36 (O) 1180])

[Example 2] The microfilm should be considered as a publication distributed in a foreign country prior to the filing of the application for the utility model since the public could refer to the content of the film by using a display screen and obtain a copy of it.

(Reference: Decision by the Supreme Court, First Petty Bench, July 17, 1986 [Showa 61 (Gyo Tsu) 18])

(2) Determining a distributed point of time

I. A distributed point of time is estimated as follows when a publication date has been indicated:

(i) The last day of the year when only a publication year has been indicated;

(ii) The last day of the month of the year when publication month and year have been indicated; and

(iii) The day, month and year when publication day, month and year have been indicated.

II. A distributed point of time is estimated as follows when a publication date has not been indicated:

(i) For foreign publications with an exact date when they were brought from abroad to Japan, the date retrospectively estimated from the date when the publications were brought from abroad to Japan, considering the period normally taken for shipping the publications from abroad to Japan;

(ii) For publications compiled with other materials, such as book reviews, excerpts or catalogs, the publication date of the publication estimated from the publication dates of these materials;

(iii) For reprinted publications, the initial print date if any; and

(iv) For other publications, the date estimated or acknowledged from other possible information source if any.

III. A distributed point of time is determined as follows when a filing date and a publication date are the same date:

When a filing date and a publication date are the same date, a distributed point of time is not deemed to be prior to the filing unless the filing is obviously after the publication.

(3) Inventions that have been described in publications

The expression "inventions described in publications" means inventions recognized from the descriptions in the publications or equivalents to such descriptions in the publications.

The expression "equivalents to such descriptions" means those that persons can derive from the descriptions based on their common general knowledge <sup>Note</sup> as of the filing.

Note: The term "common general knowledge" means obvious knowledge derived from the general knowledge or experience of a person skilled in the art, including well-known arts or commonly used arts.

Also, the term "well-known arts" means the arts generally known in the technical field, such as those published in a significant number of documents and known in the field widely enough that it is not necessary to submit any examples of the arts. The term "commonly used

arts" means the arts well -known and commonly used.

#### 1.3 Inventions Subject to Analysis of Novelty

Inventions subject to analysis of novelty are "claimed inventions."

#### 1.4 Basic Idea of Analysis of Novelty

The presence of novelty is determined based on whether or not the claimed inventions are included in the inventions provided in Article 29(1)(i) to (iii).

When there are two or more claims in the scope of claims, each claim is analyzed.

## **1.5 Approaches for Determining Novelty**

#### 1.5.1 Identifying Claimed Inventions

Claimed inventions are identified based on the descriptions of the claims. The descriptions of the specifications and drawings and the common general knowledge as of the filing are taken into consideration for the analysis of meaning of words.

The following are details of the identification process of the claimed inventions:

(1) Clear descriptions of the claims are interpreted as they are to identify the claimed inventions. Words of the claims are interpreted as the meanings in the normal sense.

[Example 1] The gist of the invention or technical matters described in the scope of claims should primarily be identified based on the description of the scope of claims. When the description of the scope of the claims is unambiguous and clear enough to precisely understand the content of the invention, it is not allowed to take the detailed description of the invention into consideration to identify the gist. It is understood that the detailed description of the invention simply could not be taken into consideration until the description in the scope of the claims is not directly sufficient to identify the technical matters.

(Reference: Decision by the Tokyo High Court, December 21, 1993 [Heisei 4 (Gyo Ke) 116])

[Example 2] The gist of the claimed device is identified to specify the technical matters described in the claim of utility model, which is a method to determine the satisfaction of the requirements for registrability of the device. The gist should be identified based on the description in the claim insofar as the technical matters in the claim are specific. It should be understood that the gist should not be restrictively interpreted based on the detailed description of the device or drawings.

(Reference: Decision by the Tokyo High Court, April 24, 1990 [Heisei 1 (Gyo Ke) 42])

[Example 3] The gist of the claimed invention should be identified before the invention is checked by inventions of Patent Act Article 29(1)(i) - (iii) to examine the novelty and inventive step of the invention. The gist should be identified based on the scope of claims unless otherwise noted, such as unspecific technical matters that are not unambiguously described in the scope of claims or apparent misdescription of the gist that is clearly found according to the detailed description of the invention.

(Reference: Decision by the Supreme Court, Second Petty Bench, March 8, 1991 [Showa 62 (Gyo Tsu) 3]) (2) However, when the invention is clearly described in the claims and meanings of the words in the claims, or matters used to specify the inventions, are defined or explained in the specification and drawings, the specifications and drawings are taken into consideration to interpret the words. In addition, examples of more specific concepts developed under the concepts of the words in the claims, which are merely provided in the detailed description of the inventions or drawings, are not included in the words defined or explained.

Also, when the description in the claims is not clear enough to be understood and the description could be specified by interpreting the words in the claims based on the specifications, drawings and technical knowledge as of the filing, they are taken into consideration to identify the invention.

[Example 1] Terms in specifications should be technical terms in the normal sense and understanding or interrupting some terms in specifications may require looking them up in dictionaries to find their definitions. However, it is not appropriate to only look them up in dictionaries to understand or interrupt these terms. The descriptions in the specifications or drawings should primarily be analyzed to understand or interpret meanings or details of the terms in the descriptions.

(Reference: Decision by the Tokyo High Court, October 19, 1995 [Heisei 6 (Gyo Ke) 78])

[Example 2] When a technical term is not used in the normal sense in the "scope of claims" and described in the "detailed description of the invention" as such or when a technical term is too ambiguous to understand in the "scope of claims" but it is specified in the "detailed description of the invention," there is no doubt that these terms should be interpreted based on the description of the "detailed description of the invention."

(Reference: Decision by the Tokyo High Court, April 15, 1970 [Showa 41 (Gyo Ke) 62])

[Example 3] For a reasonable interpretation of claims of a utility model, it should be allowed to take the detailed explanation of the device into consideration to understand the correct meanings of technical terms or matters which are unclear in the claims of a utility model.

(Reference: Decision by the Tokyo High Court, April 6, 1977 [Showa 47 (Gyo Ke) 33])

(3) Claimed inventions are not identified when the inventions are not specific, even when taking the description in the specifications or drawings and the technical common knowledge as of the filing into consideration.

(4) Even when an invention identified by the claims does not correspond to the invention described in the specification or drawings, the claimed invention is not identified by the specification or drawings alone without analyzing the claims.

When technical matters or terms are described in the specifications or drawings but not described in the claims, the claimed invention is identified without analyzing the technical matters or terms. On the other hand, when they are described in the claims, they are always analyzed and the invention should not be identified without analyzing them.

[Example 1] When the description in the "scope of claims" is specific enough to accurately understand the details of the invention, it is not allowed to identify the claimed invention by additionally including the technical matters in the "detailed description of the invention," which are not described in the "scope of claims" at all, to understand the details of the invention.

(Reference: Decision by the Tokyo High Court, April 15, 1970 [Showa 41 (Gyo Ke) 62])

[Example 2] The gist of the invention should be identified or interpreted based on the scope of claims and it is not allowed to identify the gist without analyzing the description in the scope of claims or by additionally including other technical matters not described in the scope of claims, unless otherwise noted.

(Reference: Decision by the Tokyo High Court, November 26, 1981 [Showa 48 (Gyo Ke) 62])

## **1.5.2 Examples of Processes of Identifying the Claimed Invention Written in Specific Expressions**

(1) Descriptions in claims in which products are defined by their working, functions or characteristics (hereinafter called "functions or characteristics")

I. Descriptions in claims in which products are defined by functions or characteristics are interpreted, in principle, as representing all products that have the functions or characteristics unless otherwise noted according to 1.5.1(2) above <sup>Note</sup>. For example, "wall materials with layers insulating heat" are interpreted to be wall materials with "products" that are "layers with heat insulation as their working or functions."

Note: For example, the term "heat insulation alloys" from the expression "heat insulation alloys with compositions of ... " in claims is interpreted to be "alloys applied to use (of products) requiring heat insulation" after the claimed invention has been identified based on the descriptions in the specifications and drawings and the common general knowledge as of the filing. In this case, the invention is dealt according to approach (2) below for the descriptions in which products are defined by use.

II. However, descriptions of the functions or characteristics inherent in the products do not help to define the products, and they are interpreted to represent the products per se.

[Example 1] "Chemical compound X having an anticancer effect"

In this example, since the expression "having an anticancer effect" is a characteristic inherent in compound X and does not help to define the product, it is understood that the "Chemical compound X having an anticancer effect" represents "compound X" per se regardless of whether the anticancer effect of compound X is known or not. Accordingly, when compound X is known, novelty of the invention is denied. ("anticancer agents containing a chemical compound X" are analyzed according to the guidelines in Part VII, Chapter 3 "Medical Inventions".)

[Example 2] "RC integrators cutting high frequency signals and passing low frequency signals"

In this example, the function "cutting high frequency signals and passing low frequency signals" is inherent in the "RC integrators" and it is understood that this art represents ordinary "RC integrators." However, the expression of a claimed art "RC integrators cutting high frequency signals with ...Hz or more and passing low frequency signals with ...Hz or less" means "general RC integrators with specific frequency characteristics," and it is not defined by the function inherent in general "RC integrators." It should be noted that this expression helps to define the product.

III. Some expressions specifying products by the functions or characteristics should not be

interpreted as specific products among all the products that have such functions or characteristics based on the common general knowledge as of the filing.

For example, the expression "means for fixing" from the expression of a claimed art "means for fixing the first wooden member to the second plastic member" does not represent fixation means used for metals, such as for welding, among all fixation means.

(2) Descriptions in claims in which products are defined by the use (limitation of use)

Descriptions in claims in which products are defined by the use (limitation of use) in a word like "for use as ..." are analyzed to understand how the limitation of use works to define the claimed invention, in consideration of the descriptions in the specifications and drawings and the common general knowledge as of the filing. (It should be noted that descriptions too incomprehensible to define the claimed inventions could violate Article 36(6)(ii).)

However, chemical compounds limited by the use described in a phrase like "for use as ...," such as "a chemical compound Z for use as Y," which represents limitation of use, generally indicate mere usefulness of the compounds, and they are interpreted as simple chemical compounds without limitation of use, such as the compound Z, which is apparent without applying the approaches I and II below to this case. (See Example 1.)(Reference: Decision by the Tokyo High Court, July 8, 1997 [Heisei 7 (Gyo Ke) 27]) This approach should be applied not only to chemical compounds but also to microorganisms.

[Example 1] "Chemical compound Z for use as an insecticide "

The expression "for insecticidal use" merely represents the usefulness of the compound when the descriptions in the specification and drawings and the common general knowledge as of the filing are taken into consideration. It is understood that "chemical compound Z for insecticidal use" is "chemical compound Z" per se without limitation of use. Therefore, "chemical compound Z for use as an insecticide" is not considered to be different from "chemical compound Z" without limitation of use.

I. General approach for analyzing the invention with limitation of use

It is understood that a product with limitation of use, which is specially adapted for the use, is the product that provides the shapes, structures, or compositions (hereinafter called "structures etc.") defined by the limitation of use when the limitation of use would represent the structures etc. specially adapted for the use even after the descriptions of the specification and drawings and the common general knowledge as of the filing are analyzed.

Therefore, when matters used to specify the claimed invention do not differ from the matters used to specify the cited invention in any aspects except the limitation of use, these inventions are different inventions as far as these inventions provide different structures etc. defined by the limitation of use. (See Examples 2 and 3.)

On the other hand, the product with the limitation of use is not considered to represent a definition of the product when the product is not understood to be a product specially adapted for the use, even based on the descriptions of the specification and drawings and the common general knowledge as of the filing, unless the limitation of use is included in II. below for considering the product to be a product with limitation of use.

Consequently, matters used to specify the claimed invention and the matters used to specify the cited invention are not understood to be different from each other when these matters do not differ in any aspects except the limitation of use.

[Example 2] "A hook for use as a crane in the shape of... "

When the expression "a hook for use as a crane in the shape of..." represents a definition of "a hook" that is structured with a size or strength specially adapted for using a crane, based on the descriptions of the specifications or drawings and the common general knowledge as of the filing, it is understood that the claimed invention is a "hook" with such a structure. Accordingly, "a hook for use as a crane in the shape of ..." is different from "a hook for fishing use (fishhook)" in the same shape as the former because their structures etc. are different.

[Example 3] "Fe-based alloys having composition A for use as a piano wire"

When the expression "Fe-based alloys with composition A for use as a piano wire" represents a definition of "Fe-based alloys" as being an alloy with fine-layered structures for high-tension specially adapted for piano wire, based on the description of the specification and drawings and the common general knowledge as of the filing, it is understood that the claimed invention is "Fe-based alloys" with those fine-layered structures. Accordingly, the "Fe-based alloys with composition A for use as a piano wire" is different from Fe-based alloys without such fine-layered structures, such as "Fe-based alloys with composition A for use as gearing," and these two alloys are different.

II. Approach when an invention of products with limitation of use has to be interpreted as a use invention

Generally, a use invention is interpreted to be an invention based on the discovery of an unknown attribute of a product and finding of the product's adaptability of novel use.

Court decisions for reference: Decisions by the Tokyo High Court, April 25, 2001 [Heisei 10 (Gyo Ke) 401]; Tokyo District Court, October 23, 1992 [Heisei 2 (Wa) 12094]; Tokyo High Court, July 13, 2000 [Heisei 10 (Gyo Ke) 308]; Tokyo High Court, February 10, 2000 [Heisei 10 (Gyo Ke) 364]

When the claimed invention provides a limitation of use in the claims and is considered to be an invention based on the discovery of an unknown attribute of a product and finding of the product's adaptability for novel use derived from the attribute, it is appropriate to analyze the invention from the additional aspect of the limitation of use since the limitation of use may define the claimed invention. Accordingly, the invention could be novel as a use invention even if the product per se is already known. (See Example 4.)

However, the novelty of the claimed invention is denied when a novel use of the product is not considered to be provided, based on the common general knowledge in the area as of the filing, even with a discovered unknown attribute. In addition, when the claimed invention and the cited invention, which are inventions of products different in the expressive aspect of the limitation of use, cannot be distinguished from each other by use based on the analysis of the common general knowledge in the area as of the filing, the novelty of the claimed invention is denied. (See Examples 5 and 6.)

[Example 4] "Compositions comprising a specific quaternary ammonium salt for use in antifouling of ship bottoms"

The "compositions comprising a specific quaternary ammonium salt for use in antifouling of ship bottoms" is different from "compositions comprising a specific quaternary ammonium salt for use as undercoating for electrodeposition" even if the compositions of both inventions do not differ in any aspects but the limitation of use, since the limitation of use represents the definition of "the compounds," wherein the use expressed by "for use as undercoating for electrodeposition" is derived from an attribute that enables electrodeposition on materials and improves adherence of overcoat layers and the use expressed by "for use as antifouling of ship bottoms" is a novel use that is derived from a discovered unknown attribute that prevents shells from sticking to the bottom of ships and is not included in the scope of the known arts derived from the attribute.

[Example 5] "Yogurt containing Ingredient A for use in strengthening bones"

"Yogurt containing Ingredient A for use in strengthening bones" is not food that provides a novel use since "yogurt containing Ingredient A" and the "yogurt containing Ingredient A for use in strengthening bones" are both provided just as foods even though the invention is derived from the discovered unknown attribute that promotes your bone to absorb calcium. Therefore, the novelty of the "yogurt containing Ingredient A for use in strengthening bones" is denied due to the description "yogurt containing Ingredient A."

In addition, inventions applied as foods, not limited to yogurt, usually do not provide a novel use that is distinguishable from known foods in light of the common general knowledge in the food area, even if these known foods provide any discovered novel attributes.

[Example 6] "Cosmetic products containing Ingredient A as an active ingredient for use in prevention of skin wrinkles"

The invention "cosmetic products containing Ingredient A as an active ingredient for use in moisture retention of the skin" is derived from an attribute that adjusts the skin by softening the stratum corneum and thus helps the skin to absorb water. On the other hand, the invention "cosmetic products containing Ingredient A as an active ingredient for use in prevention of skin wrinkles" is derived from an unknown attribute that improves the skin condition by promoting production of Substance X inside the body. Though they are different in the expressive aspect of the limitation of use, when the both inventions are applied to the skin for external use as skin-care cosmetics and the common knowledge in the area shows that the cosmetics with a moisturizing effect are the cosmetics which prevent skin wrinkles etc. for better skin conditions by moisturizing and also applied to prevent skin wrinkles, there are no difference is noted in the use of these two inventions. Therefore, when there is no difference but the limitation of use between these inventions, the novelty of the former invention is denied due to the presence of the latter invention.

Note 1: Generally, when an invention is found to be creative because of the discovery of its unknown attribute in respect to its purpose of use which is not previously known, it is considered to be novel as a use invention. Also, the concept of the use invention is generally applied to the technical fields in which it is relatively difficult to understand how to use the product from the structure or name of the product, such as the technical field in which compositions containing chemical substances are used. On the other hand, the concept of a use invention is not applied to machines, instruments, articles, and apparatuses because these products are usually used in fixed manners.

Note 2: The inventive step of the claimed invention is denied when a person skilled in the art could easily arrive at the use of the product of the invention based on any known attribute or structures etc. of the product, regardless of the novel use provided based on the attribute. (Decision by the Tokyo High Court, August 27, 2003 [Heisei 14 (Gyo Ke) 376].)

Note 3: In light of the expressions, some use inventions are described in the style of the limitation of use as well as the dosage form and methods of use. Handling of the above could also be applied to use inventions described in styles other than those of use limitations, but limited to inventions whose claims provide certain words for use, such as "catalysts comprising...,"

"ornamental materials composed of alloy...," and "methods of killing insects using ..." according to 1.5.1(4).

(3) Claims defining products by the manufacturing processes (product-by-process claims)

It is understood that claims defining products by the manufacturing processes means definitions that represent products per se gained as final products, unless otherwise interpreted according to 1.5.1(2) above <sup>Note</sup>. Accordingly, the novelty of the claimed invention is denied when other manufacturing processes are able to produce an identical product to that of the claimed manufacturing process and the product is publicly known.

Note: This is because some structures of products cannot represent the products of the inventions, these products are described only by the methods of manufacturing processes (such as inventions relating to isolated protein), and it is inappropriate to make a distinction between an invention defined by its structure and an invention defined by its manufacturing process. Accordingly, products are interpreted according to above paragraph even though applicants clearly intend to limit the products only to those manufactured by specific processes, such as "Z obtained solely by process A."

[Example 1] "Protein manufactured by a manufacturing process P (with steps p1, p2, ...and pn)"

In this example, the novelty of the invention is denied when known specific protein Z manufactured by process Q is identical to the protein manufactured by process P, regardless of the novelty of process P.

[Example 2] "Panels with a double-layer structure fixed by welding iron member A and nickel member B"

In this example, if the method to obtain the same double-layer structure fixed by welding other than welding method, the novelty of the invention is denied. However, since the panel structures identical to those fixed by welding are not generally manufactured by methods other than welding, the novelty of the invention is not denied unless the panels with a double-layer structure fixed by a welding method are not publicly known,

# 1.5.3 Identifying Inventions Cited as Inventions Provided in Patent Act Article 29(1)(i) – (iii) or Cited inventions

## (1) Inventions that were publicly known

Inventions that were publicly known are inventions that are actually known by unspecified persons through certain persons. Most of them are generally publicly known through lectures or presentations, and the inventions are identified based on the factual details explained in such lectures or presentations.

The details explained in lectures or presentations are interpreted based on the common general knowledge, and other facts derived from the common general knowledge in the lectures or presentations are used as a base for identifying the inventions that were publicly known.

## (2) Inventions that were publicly worked

Inventions that were publicly worked are inventions that have been worked in a situation where the contents of the inventions are or could be publicly known through machinery or systems, and the inventions are identified based on the facts embodied through the machinery or systems.

The facts embodied through the machinery or systems could be interpreted based on the

common general knowledge, and facts derived from the facts based on the common general knowledge taken in a situation where the inventions have been worked could be a basis for identifying the inventions that were publicly worked.

## (3) Inventions described in publications

I. "Inventions described in publications" are identified based on "the descriptions in the publications." The descriptions are able to be interpreted based on the common general knowledge, and any facts that a person skilled in the art could derive from the description in the publications based on the common general knowledge as of the filing date, or equivalents to such descriptions in the publications, could also be a basis for identifying the inventions described in publications. In other words, "inventions described in publications" means inventions that a person skilled in the art is able to understand based on the descriptions in publications or equivalents to such descriptions.

Accordingly, inventions that a person skilled in the art is not able to understand based on the descriptions in the publications or equivalents to such descriptions are not included in either "inventions described in publications" or "cited inventions." For example, when one "description in a publication" is part of the alternatives in the claims described in the Markush form, it is necessary to check if person skilled in the art is able to understand an invention that provides either one of the alternatives as a requisite to define the invention.

## Example of "equivalents to the descriptions"

[Example 1] A method that the conductor is grounded as a shielding means for preventing electrical interference is recognized as common general knowledge in the electricity-related field, and it is presumed that a person skilled in the art may understand as a matter of course that the shield plate for the switch disclosed in the examples is intended to be connected to the earth, regardless of the absence of the such examples in the document. In view of Utility Model Act Article 3, it is reasonable to say that "devices described in publications" in Article 3(1)(iii) are considered to be a technical idea that person skilled in the art is able to clearly understand....The fact that the shielding plate in the example is expected to be connected to the earth should be included in the technical meanings of the term "shielding plate" per se exemplified in the document.

(Reference: Decision by the Tokyo High Court, November 29, 1982 [Showa 56 (Gyo Ke) 93])

Example of "not equivalents to the descriptions"

[Example 2] The working example 6 in the cited document shows attapulgite clay (acidic components), which has the same effect as citric acids and is insoluble in a solvent. In short, it is reasonably understood that this example merely shows using insoluble phenol resins since insoluble substances are usually applied as a conventional acid component in this field. Accordingly, the example is not considered to provide a description for a substance soluble in the solvent with the same component as basic components selected from "phenol resins."

(Reference: Decision by the Tokyo High Court, October 5, 1982 [Showa 55 (Gyo Ke) 12])

II. When an invention of a product or process is not clearly described enough that person skilled in the art is able to manufacture the product or use the process based on the descriptions of the publications and the common general knowledge as of the filing, the invention is not included in "cited inventions."

For example, when a chemical substance is described merely by its name or its chemical

formula in a publication and the description does not show the manufacturing process clearly enough that person skilled in the art is able to manufacture the substance on the basis of the common general knowledge as of the filing, the chemical substance is not included in "cited inventions." (Note that this does not mean that the claim violates the enablement requirement under Article 36(4)(i) where the publication is a patent application claiming the chemical substance as one of the alternatives described in the Markush form.)

(4) Inventions described in generic concepts and more specific concepts for identifying cited inventions

I. Inventions providing generic concepts <sup>Note 1</sup> are identified when the cited inventions provide more specific concepts, which are considered to already show the inventions applying "ideas belonging to the same family or types or having a common nature" to identify the inventions. In addition, even when the cited inventions provide more specific concepts, which is a description for finding the novelty, the novelty of the claimed invention providing the generic concepts could be determined by comparing both inventions or determining their similarity, without identifying the claimed inventions providing the generic concepts.

II. The inventions providing more specific concepts are not identified when the cited inventions provide generic concepts, since the inventions are not considered to be those providing more specific concepts. (However, the inventions are identified when they are derived from the common general knowledge <sup>Note 2</sup>.)

Note 1: The term "general concept" means a comprehensive concept consisting of ideas belonging to the same family or type, or a comprehensive concept integrating a plurality of ideas sharing a common nature.

Note 2: General knowledge is not considered to be those from (or in) which inventions described in more specific concepts are derived (or described) when more specific concepts are merely included in the generic concepts or more specific concepts could be picked up from the generic concepts.

## 1.5.4 Comparing the Claimed Inventions and Cited Inventions

(1) The claimed inventions and cited inventions are compared by identifying corresponding and differing points between matters used to specify the claimed invention and matters required to express the cited inventions by words (hereinafter called "matters used to specify the cited inventions").

(2) In addition to the comparison in said (1), the claimed inventions are identified by comparing the more specific concepts of the claimed inventions to the cited invention to find the corresponding and differing points between them.

Some more specific concepts of the claimed inventions include the detailed descriptions of the invention and the descriptions in drawings as modes carrying out the claimed inventions, but the claimed inventions and cited inventions are also compared based on other modes as far as these other modes are included in the more specific concepts of the claimed inventions.

This comparison is efficient for determining the novelty of the claimed inventions, such as those containing descriptions that define products by the functions or characteristics or that provide numerical ranges.

(3) Instead of the approaches in said (1) and 1.5.3(3), matters in cited publications and matters used to specify the inventions in the claimed inventions are compared to define the corresponding and differing points by interpreting these matters based on the common general knowledge as of the filing. However, the results after this comparison should not differ from those from the approaches in said (1) and 1.5.3(3).

(4) Combinations of two or more independent cited inventions should not be compared to the claimed inventions.

## 1.5.5 Determining the Novelty of the Claimed Inventions

(1) When the difference between the matters used to specify the invention in the claimed inventions themselves and those used to specify the cited inventions is not found after the comparison, the claimed inventions are not novel. Any difference between these two matters involves the novelty of the claimed inventions.

(2) The claimed inventions with formal or substantial alternatives <sup>Note 1</sup> for defining an invention for which a patent is sought are not considered to be novel when any difference between the claimed inventions, in which one of the alternatives is presumed to be an aspect to define the invention, and the cited inventions is not found <sup>Note 2</sup>.

Note 1: The term "formal alternatives" means descriptions in a style that makes it apparent that the claims are alternatives, such as claims described in the Markush form or multiple dependent form claims citing other claims alternatively.

The term "substantial alternatives" means descriptions provided to substantially include more specific aspects of a limited number of arts using comprehensive expressions. The "substantial alternatives" are determined by the claims as well as specifications, drawings, and the common general knowledge as of the filing, such as claims providing the description "alkyl groups with C1 – C10 (the number of carbons)," which is a comprehensive description including methyl groups, ethyl groups, and other groups.

On the other hand, the term "thermoplastic resin," for example, is not a comprehensive expression that covers specific concepts of the "thermoplastic resin" unless it should be interpreted exactly based on the specifications, drawings, and common general knowledge as of the filing, such as definitions described in the detailed description of the invention, and it should be noted that this term is not included in the substantial alternatives. Accordingly, the concept "thermoplastic resin" includes an unspecific number of specific concepts, such as polyethylene or polypropylene, and it is understood to be a generic concept specified by the characteristic shared by the specific concepts, such as "thermoplasticity" for the "thermoplastic resin."

Note 2: This approach does not relate to the timing when prior art searches are finished. For details, see "Part IX How to Proceed the Examinations."

(3) Claims defining products by functions or characteristics

I. Claims providing descriptions for defining products by functions or characteristics, which are included in the following (i) or (ii), may be difficult to compare to the cited inventions. For these claims, the examiners shall send a notice of the reasons for refusal for the lack of novelty when they have a reasonable doubt that the products in the claimed inventions and cited

inventions are prima facie identical, without comparison of the products between the claimed inventions and the cited inventions for finding the exact corresponding and differing points, unless differences are found in other sections. The reason for refusal is cancelled when the applicants argue against the notice of reasons for refusal or when they clarify their refused applications by submitting written opinions or certificates of experimental results sufficiently enough to deny the conviction of the examiners to the extent that truth or falsity becomes unclear. The novelty of the claimed invention is determined to be refused when the applicants' arguments or clarifications are abstract or general or the examiners do not change their convictions.

However, this approach should not be applied to the inventions, whose matters used to specify the cited invention are included in the following (i) or (ii), as cited inventions:

(i) Inventions not included in any inventions whose functions or characteristics are common, used among a person skilled in the art commonly, or relation to the arts commonly used is understood by a person skilled in the art, even though they are not commonly used; or

(ii) Inventions included in either of the inventions whose functions or characteristics are common, used among a person skilled in the art commonly, or relation to the arts commonly used is understood by a person skilled in the art, even though they are not commonly used, but those inventions whose functions or characteristics are combined and included in the inventions defined by said (i) as a whole.

Note: Common functions or characteristics are defined by JIS (Japanese Industrial Standards), IOS-standards (International Organization for Standardization-standards) or IEC-standards (International Electro-technical Commission-standards), or determined quantitatively by testing or measuring methods provided in those standards. Functions or characteristics commonly used among person skilled in the art is those commonly used by the a person skilled in the art with the definitions or testing or measuring methods understood by the person skilled in the art.

II. The following are examples in which the examiners should have a reasonable doubt that the cited inventions are prima facie identical:

- The functions or characteristics of the claimed inventions are found to be convertible to other functions or characteristics specified by other definitions or by testing or measuring processes, and it is found that the products of the cited inventions are considered to be identical to those of the claimed inventions from the results of the conversion;

- The claimed inventions and cited inventions, which are defined by identical or similar functions or characteristics and have different measurement conditions or evaluation processes with a constant relationship, where the functions or characteristics of the cited inventions are highly likely to be included in those of the claimed inventions when the functions or characteristics of the cited inventions are measured or evaluated by the conditions of measurement or processes of evaluation of the claimed inventions;

- After the filing of the claimed inventions for products, structures of the products that are identical to those of the claimed inventions are found and the products have been publicly known before the filing;

- The cited inventions are found to be identical or similar to the arts described in the working examples in the specifications or drawings of the claimed inventions, such as cited inventions providing an identical manufacturing process and a similar starting material to those described in the working examples, or cited inventions providing a similar manufacturing process and an identical starting material to those described in the working examples; and

- The cited inventions and claimed inventions have common matters used to specify the claimed inventions other than sections describing the functions or characteristics and the cited

inventions provide problems to be solved or advantageous effects of the inventions similar or identical to those in the matters used to specify the inventions describing the functions or characteristics, where the functions or characteristics of the cited inventions are highly likely to be included in those of the claimed inventions.

In addition, the novelty of the claimed inventions shall be determined through regular approaches rather than this special approach when possible.

(4) Claims defining the products by manufacturing processes

I. It is sometimes extremely difficult to determine the structures of products per se provided in the claims defining the products by manufacturing processes. For these claims, as mentioned in the above (3), the examiners shall send a notice of the reasons for refusal for the lack of novelty when they have a reasonable doubt that products in the claimed inventions and cited inventions are identical, without comparing products of the claimed inventions to those of the cited inventions to find exact corresponding and differing points, unless differences are found in other sections.

However, this approach should not be applied to the inventions, whose matters used to specify the cited invention define the products by the manufacturing processes, as cited inventions:

II. The following are examples in which the examiners should have a reasonable doubt:

- The cited inventions are found to provide products with similar starting materials to and manufactured by the same manufacturing process as those of the claimed inventions;

- The cited inventions are found to provide products that have the same starting material as and manufactured by the similar manufacturing process to those of the claimed inventions;

- After the filing of the claimed inventions for products, structures of the products that are identical to those of the claimed inventions and the products have been publicly known before the filing; and

- The cited inventions are found to be identical or similar to the arts described in the working examples in the specifications or the drawings of the claimed inventions.

In addition, the novelty of the inventions shall be determined through regular approaches rather than these special approaches when possible.

## 1.6 Notice of Reasons for Refusal under the Provision of Patent Act Article 29(1)

A notice of reasons for refusal is sent to applicants when the examiners have concluded that claimed inventions are unpatentable under Article 29(1).

The applicants have opportunities to argue against the notice of reasons for refusal or clarify their refused applications by submitting written opinions or certificates of experimental results.

The reason for refusal is cancelled when the applicants deny the convictions of the examiners that the claimed inventions are unpatentable according to Article 29(1) to the extent that truth or falsity becomes unclear, by submitting written opinions or certificates of experimental results. The claimed invention is refused due to lack of novelty when the convictions of the examiners do not change.

## 2. Inventive Step

#### Patent Act Article 29(2)

Where, prior to the filing of the patent application, a person ordinarily skilled in the art of the invention would have been able to easily make the invention based on an invention prescribed in any of the items of the preceding paragraph, a patent shall not be granted for such an invention notwithstanding the preceding paragraph.

#### 2.1 Purpose of the Provision of Patent Act Article 29(2)

The Provision of Patent Act Article 29(2) aims to exclude the inventions that ordinary engineers are easily able to create from the inventions subject to be granted because granting patent rights to such inventions is useless to progress of the technology and also prevents the progress.

## 2.2 Article 29(2)

(1) The expression "an invention prescribed in any of the items of the preceding paragraph" means any of the inventions publicly known or publicly worked in Japan and the inventions disclosed in distributed publications in Japan or abroad prior to the filing of the patent applications Note 1.

Note 1: For the application on or after January 1, 2000, the expression includes any of the inventions publicly known or publicly worked in Japan or abroad and the inventions disclosed in distributed publications or made available to the public through electric telecommunication lines in Japan or abroad prior to the filing of the patent application.

(2) The expression "a person ordinarily skilled in the art of the invention" (hereinafter called "a person skilled in the art") means a person who have the common general knowledge of the inventions in the area as of the filing, are able to use ordinary technical means for research and development, are able to exercise ordinary creativity in selecting materials and changing designs, and are able to comprehend all technical matters for state of the arts technology <sup>Note 2</sup> in the field of the claimed inventions.

In addition, a person skilled in the art is those who are able to comprehend all technical matters in the field relevant to problems to be solved by the inventions.

Further, for some inventions, it is appropriate to consider these persons skilled in the arts to be a "team of experts" in several fields rather than individual person.

Note 2: The expression "state of the art" includes "an invention prescribed in any of the items of the preceding paragraph," common general knowledge, and other technical knowledge or information.

(3) The expression "prior to the filing of the patent application, a person ordinarily skilled in the art of the invention would have been able to easily make the invention based on an invention prescribed in any of the items of the preceding paragraph" means that a person skilled in the art could easily arrive at the claimed inventions by exercising their ordinary creativity on the basis of the inventions described in Article 29(1) or "cited inventions" prior to the filing of the applications.

## 2.3 Inventions Subject to Analysis of Inventive Step

Inventions subject to analysis of inventive step are novel "claimed inventions."

## 2.4 Basic Idea of Analysis of Inventive Step

(1) The presence of an inventive step is determined based on whether or not it could be reasoned that person skilled in the art is able to easily arrive at the claimed inventions based on the cited inventions, by constantly considering the process the person skilled in the art may take based on the exact understanding of the technical field of the claimed invention as of the filing.

(2) For details, after the claimed invention and one or more cited inventions have been identified, one of the cited inventions most suitable for the reasoning is selected, and the claimed invention and cited invention are compared to find the correspondences and differences between the matters used to specify the claimed invention and matters used to specify the cited invention. Then, reasons for denying the presence of an inventive step of the claimed invention are sought based on the details of this or other cited invention(s)(including well known and commonly used arts) and the common general knowledge. This reasoning may be conducted from various and broad viewpoints. For example, it is examined to see if the claimed invention is selection of optimum materials, workshop modification, or mere aggregation or if the contents of the cited invention could be a cause or motivation of the claimed invention. In addition, an advantageous effect as a result of the comparison of the claimed invention to the cited invention is taken into consideration as grounds for positively presuming the presence of the inventive step when the effect is clearly described in the specification etc.

As a result of this approach, the inventive step of the claimed invention is denied when the reasoning is valid and it is not denied when the reasoning is invalid.

(3) In addition, the approach for identifying the claimed inventions and the cited inventions and that for comparing the claimed inventions and the cited inventions are also applied to the "Approach for determining the novelty." (See 1.5.1 - 1.5.4.)

## 2.5 Examples of Reasoning

Reasoning may be conducted from various and broad viewpoints. The following are examples of reasoning.

(1) selection from optimum material, workshop modification, or mere aggregation

I. selection from optimum material, workshop modification etc.

The claimed inventions that are selection from optimum materials from publicly known materials optimally or preferably modified numerical ranges, materials replaced by equivalents, or designs modified along specific application of techniques to solve certain problems are regarded to be arts derived from the ordinary creativity of a person skilled in the art. When the difference from the cited inventions only lies in any one of these modifications, the claimed inventions are usually regarded as obvious to a person skilled in the art, unless other grounds for presuming the presence of the inventive step in the claimed inventions are provided.

 $[Example 1] Sending or receiving signals using infrared waves of approximately 0.8 - 1.0 \\ \mu m of infrared energy wavelength range is recognized as a well-known art. Then, since there are$ 

no special factors that prevent the technique from being applied to a position transmission apparatus for emergency vehicles, it is admitted that a person skilled in the art could easily arrive at the claimed invention by applying the technique of position transmission provided in the cited invention 1.

(Reference: Decision by the Tokyo High Court, July 16, 1998 [Heisei 9 (Gyo Ke) 86]. This is an example of inventions easily created by applying the cited invention if there is no obstructive factor.)

[Example 2] Using cloth or paper as base materials for binding plants, which does not contain reinforcement, is well-known and commonly used in a process for making pressed flowers. Therefore, the idea of using cloth or paper in which calcium chloride is absorbed as base material without using any reinforcement is an idea that a person skilled in the arts as well as ordinary persons who try to make pressed flowers could easily design and come up with when making pressed flowers that do not require reinforced cloth or paper like the flexible moisture-absorbing material in the cited invention.

(Reference: Decision by the Tokyo High Court, February 15, 1995 [Heisei 6 (Gyo Ke) 82, 83])

## II. Mere aggregation

Claimed inventions are included in those that would be obvious to a person skilled in the art of ordinary creativity when the components of the claimed inventions whose functions and working are not correlated and the claimed invention has merely aggregated components or merely a combination of the components, unless other grounds for presuming the presence of the inventive step in the claimed inventions are provided.

[Example 1] The remarkable working effect that the plaintiffs assert is not deemed to be anything but a mere combination of expected effects of each publicly known art. Thus, the effect is not deemed to be a specific remarkable working effect of the claimed invention.

(Reference: Decision by the Tokyo High Court, June 29, 1973 [Showa 44 (Gyo Ke) 7])

(2) Probable cause or motivation

## I. Relation of technical fields

The inventions to which any technical means of the related technical field is attempted to be applied to solve the problems in the inventions are the inventions created by exercising the ordinary creativity of a person skilled in the art. For example, a technical means that could be replaced by or added to the art described in the related technical fields could be a strong ground for showing that a person skilled in the art could arrive at the claimed invention based on the means.

[Example 1] The cited invention is a device for releasing the stopping of pachinko bonus games. It is understood that applying the device to the claimed invention filed for the slot machine, in which a device for stopping bonus games in response to the predetermined number of gained coins is provided, is an idea a person skilled in the art easily conceive, even taking the same category as a game machine and the difference between pachinko machines counting pachinko balls and slot machines counting coins into account. Whether or not the art is easily applied should be determined by the viewpoint that a person skilled in the art can easily apply the art to other fields technically similar to the field of the invention in order to develop a technique. From this viewpoint, it is admitted that the idea of applying the technique of the pachinko machine

to that of the slot machine is an idea that would have been easily conceived by a person skilled in the art

(Reference: Decision by the Tokyo High Court, June 24, 1997 [Heisei 8 (Gyo Ke) 103])

[Example 2] A camera and an automatic strobe light are always used together and are closely related. Therefore, applying the incidence control element of a photometric circuit for the camera to a photometric circuit for the automatic strobe light would be an idea a person skilled in the art easily arrive unless any outstanding structure is adopted for applying the element.

(Reference: Decision by the Tokyo High Court, March 18, 1982 [Showa 55 (Gyo Ke) 177])

[Example 3] The cited invention 1 and the cited invention 2 obviously belong to the same technical field since the cited invention 1 relates to the apparatus for collecting printing ink for corrugated cardboard printing machines and the cited invention 2 relates to the apparatus for supplying high viscosity liquids such as printing ink. The cited invention 2 provides an extremely basic technical means in which a transmit pump is composed of an emitting/aspiration pump convertible to normal/reverse turn by connecting a drive motor of the transmit pump to a reverse control circuit, which is a point to be incorporated to determine the difference between both of the cited inventions. Accordingly, the fact that a specific technical problem or purpose between these two cited inventions is not the same does not provide grounds to deny that the application of the technical means provided in the cited invention 2 to the cited invention 1 is an extremely conceivable idea to a person skilled in the art.

(Reference: Decision by the Tokyo High Court, June 10, 1997 [Heisei 8 (Gyo Ke) 21])

#### II. Close similarity of problems to be solved

A close similarity found between problems to be solved in the inventions provides strong grounds for the reasoning that the claimed invention is an idea at which a person skilled in the art could arrive by applying or combining the cited inventions.

[Example 1] Cited inventions 1 and 2 share the same problem to be solved: stopping the base sheet on which a label is temporarily attached at the predetermined position. The idea in the cited invention 1 of applying the controller for conveying labels in the cited invention 2 to solve the technical problem is at which a person skilled in the art could easily arrive.

(Reference: Decision by the Tokyo High Court, July 27, 1991 [Heisei 2 (Gyo Ke) 182])

[Example 2] The thickness of saw blades usually varies according to the length, and a person skilled in the art who read the cited invention 1 could easily predict the problem to be solved itself by exchanging blades with different levels of thickness on saws with changeable blades. In addition, it is apparent that clamping means in the cited inventions 4 - 7 provide clamping force to elastically clamp blades even with different thickness levels. And it is admitted that the structure itself is created based on the technical idea of clamping blades with different levels of thickness provided in the cited inventions 4 - 7 is similar to the problem to be solved by the claimed device. Accordingly, it should be said that a person skilled in the art can very easily arrive at a conversion of the elements of the cited inventions 4 - 7 to the elements of the ripsaw blade in the cited invention 1.

(Reference: Decision by the Tokyo High Court, March 31, 1998 [Heisei 7 (Gyo Ke) 5])

When the cited documents are not considered to be involved in the problem to be solved that is intended to be similar to the claimed invention, further analysis of the inventions based on

the state of the art is necessary to see the obviousness of the problem or see if the problem is an idea that a person skilled in the art could easily conceive.

[Example 1] The problem "to save cost and space" of the claimed invention is a general problem not only of mixers but of every device. In other words, it is nothing but a general problem or an obvious problem of the structure of the device. A person skilled in the art could easily arrive at the idea of combining the problem and the features of the axial speed reducer and speed reducer with motors and apply the axial speed reducer and speed reducer with motors in the cited document 1 to save the occupied space of the mixer, thus solving the problem of the invention, where there are no specific obstructive factors.

(Reference: Decision by the Tokyo High Court, August 5, 1996 [Heisei 4 (Gyo Ke) 142])

[Example 2] The cited invention 4 clearly indicates that "light-weight" is one of the important characteristics required for a golf club shaft, and suggests that it is required or advantageous to reduce the weight of a golf club shaft, taking the flying distance of golf balls into consideration. Thus, it is admitted that the problem of the claimed device to reduce the weight of a golf club shaft is an idea that a person skilled in the art could expect as a matter of course.

(Reference: Decision by the Tokyo High Court, October 16, 1997 [Heisei 7 (Gyo Ke) 152])

The novelty of the claimed inventions, which are based on the cited inventions providing other problems to be solved, may be denied when it is reasoned that a person skilled in the art could easily conceive the matter used to specify the claimed inventions through other approaches, regardless of the difference between the problems to be solved by these inventions. This approach is also applied to inventions whose problems are not found, such as inventions resulting from discoveries found through trial and error.

[Example 1] The claimed invention discloses a carbon disk brake with grooves to drain water on its face. The cited document 1 discloses a carbon disk brake. The cited document 2 discloses a metal disk brake with grooves to remove dust on its face.

In this case, the general function of brakes shows that the dust on the face also hinders the carbon disk brake in the cited document 1 from braking operations. Providing a carbon disk brake with grooves following the art in the cited document 2 to solve this problem is a technical improvement which a person skilled in the art could easily conceive, which results in having the same structure as the claimed invention. Consequently, the claimed invention involves no inventive step.

## (Reference: 201USPQ658)

However, the inventive step of the claimed invention derived from the cited inventions is not denied when applicants sufficiently assert or prove the circumstances by which connecting the arts provided in the cited inventions 1 and 2 are hindered. For example, it is commonly known that carbon disk brakes are free from a problem of attachment of dust on the surface, which is a different point from metal disk brakes, and providing grooves on the surface of the carbon disk brakes to remove dust is an improbable idea.

## III. Commonality of working or functions

Commonality of working or functions between a matter used to specify the claimed invention and a matter used to specify the cited invention or between matters used to specify the cited inventions is a strong base for showing that a person skilled in the art could derive the

claimed invention from application or a combination of the cited inventions.

[Example 1] Both the cited invention 1 and the cited invention 2 are common in respect of pressing cloth for washing cylinders of the printing machines and have no difference between the cam mechanism of the cited invention 1 and the expansion member of the cited invention 2 in respect that the cloth is placed for attaching to or detaching from the cylinder. Then, it could be said that there is a background of conversion of a pressure means in place of the cam mechanism of the cited invention 1 to the expansion member of the cited invention 2.

(Reference: Decision by the Tokyo High Court, October 15, 1998 [Heisei 8 (Gyo Ke) 262])

## IV. Implications in the cited inventions

Implications shown in the cited inventions relevant to the claimed invention are strong grounds for the reasoning that a person skilled in the art could derive the claimed invention from the cited inventions.

[Example 1] The cited document discloses metal ions, which are cation, and provided for gaining aqueous electrodeposition baths that do not require chemical pretreatments, which is also similar to the purpose of the claimed invention, under the condition that the electrical potential of the galvanic series is higher than that of iron, providing seven types of metal ions as examples. These examples do not include lead ions as a constitution defining the claimed invention, but it is publicly known that the electrical potential of the galvanic series of lead is higher than that of iron, which shows that the applying lead ions is implied in the cited example. Accordingly, adding iron ions to aqueous electrodeposition baths is an idea that a person skilled in the art could conceive easily unless specific circumstance exists, such as inappropriateness of using iron ions in the claimed invention for achieving the purpose of the invention.

(Reference: Decision by the Tokyo High Court, November 18, 1987 [Showa 61 (Gyo Ke) 240])

[Example 2] A claimed invention providing a 3-chloro group does not mention the difference of the substitution position in the chemical formula between the 2-chloro group and 4-chloro group nor the positional limitation for displacing and using the compound to a color brightener, which are described in the cited document. Accordingly, it is understood that the 3-chloro group is implied in the cited document, which reveals that a person skilled in the art could easily predict that the 3-chloro group is also valuable to be used as a color brightener.

(Reference: Decision by the Tokyo High Court, March 30, 1978 [Showa 51 (Gyo Ke) 19])

## (3) Effects more advantageous to the claimed inventions than the cited inventions

Advantageous effects of the claimed inventions explicitly described in the specifications etc. are taken into consideration as a fact used for positively confirming the presence of the inventive step in the inventions. "Advantageous effects" means effects more advantageous to the claimed inventions than the cited inventions, selected from effects or particular effects derived from the matters used to specify the claimed inventions.

I. Analyzing effects more advantageous to the claimed inventions than the cited inventions

The effects more advantageous to the claimed inventions than the cited inventions are attempted to be analyzed for reasoning that a person skilled in the art could have easily arrived at the claimed inventions, and the inventive step of the claimed inventions is denied when the fact that the a person skilled in the art could have easily arrived at the claimed inventions is sufficiently reasoned, regardless of the presence of the advantageous effects. [Example 1] The laminated materials manufactured by the claimed invention are slightly superior to the conventional materials in strength and other characteristics, which is a result derived from the replacement of polypropylene resins to polyethylene resins easily selected from options by a person skilled in the arts and does not affect the determination of the inventive step.

(Reference: Decision by the Tokyo High Court, February 25, 1969 [Showa 37 (Gyo Na) 199])

[Example 2] The semiconductor layer of the photoelectric conversion semiconductor device, in which a silicon carbide is adopted as a material of the semiconductor region on the lightirradiated side, is easily conceived from the viewpoint of reducing light absorption in the region. Even with the effect of the region that prevents the i-type property of the second semiconductor region from deteriorating, this effect does not affect the determination that adopting a silicon carbide is an idea easily conceived.

(Reference: Decision by the Tokyo High Court, July 13, 1989 [Showa 63 (Gyo Ke) 282])

However, some inventive step may not be denied when the effect more advantageous to the claimed invention than the cited invention is distinctively beyond the expectation on the basis of the state of the art.

For example, it is presumed that the inventive step is present in the claimed inventions even if: the matters used to specify the cited inventions and those used to specify the claimed inventions are similar; a combination of several cited inventions appears to be the idea a person skilled in the art easily conceive, the effect is more advantageous to the claimed inventions than the cited inventions, and the combination has a different nature from those of the cited inventions; or the effect has the same quality as but superior to that of the cited inventions and person skilled in the art is not able to expect the effect from the state of the art.

Especially, for claimed inventions that belong to a technical field where it is difficult to expect the effect based on the structures of the products, the effect more advantageous to the claimed inventions than the cited invention is an important factor for confirming the presence of the inventive step.

[Example 1] It could be considered that producing motilin derivatives based on the cited inventions, such as those disclosed in the claimed invention, would be an art that a person skilled in the art could easily achieve. However, it is appropriate to interpret that a patent right would be granted to the applicant on the presumption of the presence of the inventive step in the claimed invention when the effect is extremely prominent beyond expectations based on the state of the art as of the filing, even with the claimed motilin providing an effect that is of the same nature as that of the cited motilin.

(Reference: Decision by the Tokyo High Court, July 28, 1998 [Heisei 8 (Gyo Ke) 136])

[Example 2] The effect of the claimed invention is a result only from combining the constitutions and providing its prominence. Thus, the claimed invention is not an art that a person skilled in the art could easily arrive at from constitutions that are publicly known and described in the cited invention.

(Reference: Decision by the Tokyo High Court, September 7, 1977 [Showa 44 (Gyo Ke) 107])

II. Analyzing the effects claimed in written opinions or etc.

The effects claimed or proved in written opinions or etc., such as experimental results, are analyzed when the specifications provide effects more advantageous to the claimed inventions than the cited inventions and when person skilled in the art is able to presume effects more advantageous to the claimed inventions than the cited inventions from the descriptions of

the specifications or drawings, although the advantageous effects are not explicitly described. However, the effects claimed or proven in the written opinions which a person skilled in the art is not able to presume from specifications, etc should not be analyzed.

(Reference: Decision by the Tokyo High Court, October 27, 1998 [Heisei 9 (Gyo Ke) 198])

## III. Approach to selection inventions

(i) Selection inventions are inventions belonging to the technical fields in which it is difficult to expect the effects of the inventions based on the structures of the products, and out of the cited inventions providing generic concepts disclosed in publications or providing substantial or formal options, the inventions providing more specific concepts subdivided under the generic concepts or inventions in which some of the options are presumed to specify the claimed inventions, whose novelty is not denied by the cited inventions, are selected. Therefore, inventions that are not regarded to be disclosed in publications mentioned in 1.5.3(3) are potential selection inventions.

(ii) The claimed inventions involve inventive step when they provide advantageous effects that are not disclosed in publications and that are different from those included in the inventions providing the generic concepts in publications or prominent even with the same type of effect, which a person skilled in the art could not expect on the basis of the state of the art.

(References: Decisions by t	he Tokyo High Court, October 31, 1963	[Showa 34 (Gyo Na) 13];
March 30, 1978	[Showa 51 (Gyo Ke) 19]; July 30,1981	[Showa 53 (Gyo Ke) 20];
	September 8, 1987	[Showa 60 (Gyo Ke) 51])

[Example 1] It is publicly known that the chemical compound expressed by one general formula contains an insecticide property. The claimed invention provides a find that a chemical compound, which is a component of the cited compound expressed by the formula but not known specifically about its insecticide property, is dramatically less toxic to humans than other components of the cited compound expressed by the formula, and then the applicant selected the found compound as an effective compound of insecticide. Furthermore, there is no basis on which person skilled in the art is able to expect the such a effect.

[Example 2] The claimed invention does not involve a selection invention since the claimed invention provides a working effect of a chroma that is superior to that mentioned in the cited invention. However, the difference in the working effect between the claimed and cited inventions is merely a presumption of the extension of the working effect of the cited invention and the difference is not distinctive enough to go beyond the expectations that a person skilled in the art may conceive.

(References: Decisions by the Tokyo High Court, September 9, 22, 1994 [Heisei 4 (Gyo Ke) 214])

IV. Approach to claimed inventions providing numerical limitations

So-called numerical limitation inventions are inventions that provide descriptions limiting the inventions numerically by numerical ranges, and these inventions are considered to be as follows:

(i) The claimed inventions providing the optimized or idealized numerical ranges in a trial way usually do not involve the inventive step since they provide the arts achieved by the ordinary creativity of a person skilled in the art. However;

(ii) the claimed inventions involve the inventive step when they provide advantageous effects within a range of the limited numerical values, which are not disclosed in publications and provide different characteristics from those of the cited inventions disclosed in the publications or which are distinctive effects having the same characteristics as but are distinctively superior to those in

the publications, from which a person skilled in the art could not expect the claimed inventions even considering the state of the art.

In addition, prominence of advantageous effects shall be provided within a complete range of the numerical values.

[Example] The claimed invention provides a reaction temperature between 350°C and 1,200°C as a requirement of the claimed invention, but the reaction conditions under the specific reaction temperatures of at least 350°C to 500°C do not involve a prominent effect.

(References: Decisions by the Tokyo High Court, December 8, 1980 [Showa 54 (Gyo Ke) 114])

In addition, the following should be noted for considering the significance of critical range of so-called numerical limitations:

The claimed inventions created on the extension of the cited inventions, or the claimed inventions that differ from the cited inventions only in the presence of numerical limitations and that share common problems to be solved, are required to provide a distinctive quantitative difference in numerical values between those outside the limitations and those inside the limitations.

[Example] The claimed invention provides the numerical limitation "(sand) in which 90% of the contained grain have a grain mesh size within the range of 100 - 14" is numerically quite similar to the preferable limitation of the grain mesh size within the range of 50 - 12 provided in the cited invention, which shows no prominent difference in the working effect between the claimed and cited inventions. Accordingly, it should be interpreted that the claimed invention is an art that a person skilled in the art was able to easily invent based on the cited inventions and publicly known arts, when limiting the range of grain size, like the claimed invention is considered to be, those a person skilled in the art could conceive the invention without using specific creativity.

(References: Decisions by the Tokyo High Court, October 12, 1989 [Showa 63 (Gyo Ke) 107])

However, claimed inventions are not required to provide critical range of numerical limitations when the claimed inventions and the cited inventions are different in the problem to be solved as well as characteristics of the advantageous effect, regardless of the presence of matters used to specify the identical invention in both claimed inventions and cited inventions excluding numerical limitations.

(References: Decisions by the Tokyo High Court, July 21, 1987 [Showa 59 (Gyo Ke) 180])

## 2.6 Approach to Claims Defining Products by the Functions or Characteristics

(1) Some claims providing the descriptions intending to define the products by the functions or characteristics, which are included in the following i. or ii., are difficult to compare to the cited inventions. For these claims, the examiners shall send a notice of reasons for refusal for the lack of inventive step of the claimed invention when they have a reasonable doubt that the claimed inventions and cited inventions are similar enough to deny the inventive step of the claimed inventions, without comparison of the products between the claimed inventions and the cited inventions for finding exact corresponding and differing points. The reason for refusal is cancelled when the applicants argue against the notice of reasons for refusal or clarify their refused applications by submitting written opinions or a certificate of experimental results sufficiently enough to deny the conviction of the examiners to the extent that truth or falsity becomes unclear. The inventive step of the claimed invention is determined to be refused when the applicants'

arguments or clarifications are abstract or general or the examiners do not change their convictions.

However, this approach should not be applied to the inventions, whose matters used to specify the cited invention are included in the following i. or ii., as cited inventions:

i. Inventions not included under inventions whose functions or characteristics are common, used among a person skilled in the art commonly, or relation to the arts commonly used is understood by a person skilled in the art, even though they are not commonly used, or

ii. Inventions included in either of the inventions whose functions or characteristics are common, used among a person skilled in the art commonly, or relation to the arts commonly used is understood by a person skilled in the art, even though they are not commonly used, but those inventions when some of these functions or characteristics are combined and the combinations are included in the inventions defined by said i. as a whole.

(2) The following are examples in which the examiners should have a reasonable doubt:

- The functions or characteristics of the claimed inventions are found to be convertible to other functions or characteristics specified by other definitions or processes for testing or measuring, and it is found that the products of the cited inventions are considered to be grounds to deny the inventive step of the claimed inventions from the results of the conversion;

- The claimed inventions and cited inventions, which are defined by identical or similar functions or characteristics and have different conditions of measurement or processes of evaluation with a constant relationship, where the functions or characteristics of the cited inventions are highly likely to be included in those of the claimed inventions, which would be grounds to deny the inventive step of the claimed inventions when the functions or characteristics of the cited inventions are measured or evaluated by the conditions of measurement or processes of evaluation of the claimed inventions;

- After the filing of the claimed inventions for products, structures of the products are that identical to those of the claimed inventions are found and the products have been publicly known before the filing;

- The cited inventions are found to be identical or similar to the arts described in the working example in the specifications or drawings of the claimed invention and any grounds to deny the inventive step of the claimed inventions are found, such as cited inventions providing the same manufacturing process as and a similar starting material to those described in the working examples, or cited inventions providing a similar manufacturing process and identical starting material to those described in the working material to those described in the working examples; and

- The cited inventions and claimed inventions have common matters used to specify the inventions other than sections describing the functions or characteristics or the claimed inventions do not involve the inventive step, and the cited inventions provide problems to be solved or advantageous effects of inventions similar or identical to those in the matters used to specify the inventions described by the functions or characteristics, which would be grounds for denying the inventive step of the claimed inventions.

In addition, the inventive step of the claimed inventions shall be determined through regular approaches rather than these special approaches whenever possible.

## 2.7 Approach to Claims Defining Products by Manufacturing Processes

(1) It is sometimes extremely difficult to determine the structures of products per se provided in the claims defining the products by manufacturing processes. For these claims, as

mentioned in the above 2.6, the examiners shall send a notice of the reasons for refusal for the lack of inventive step in the claimed invention when they have a reasonable doubt that products in the claimed inventions and cited inventions are similar enough to deny the inventive step of the claimed inventions, without comparing the products of the claimed inventions to those of the cited inventions to find exact corresponding and differing points.

However, this approach should not be applied to the inventions, whose matters used to specify the cited invention define the products by the manufacturing processes, as cited inventions:

(2) The following are examples in which the examiners should have a reasonable doubt:

- The cited inventions are found to provide products with similar starting materials to and manufactured by the same manufacturing process as those of the claimed inventions;

- The cited inventions are found to provide products that have the same starting material as and manufactured by the similar manufacturing process to those of the claimed inventions;

- After the filing of the claimed inventions for products, structures of the products that are identical to those of the claimed inventions and the products have been publicly known before the filing; and

- The cited inventions are found to be described in the working examples in the specifications or the drawings of the claimed inventions or to be similar to the arts in these sections, which becomes grounds for denying the inventive step of the claimed inventions.

In addition, the inventive step of the claimed inventions shall be determined through regular approaches rather than these special approaches whenever possible.

## 2.8 Notes for Determining Inventive Step of Claimed Inventions

(1) The publications are inappropriate materials as cited inventions when they provide the descriptions that hinder a person skilled in the art from easily arriving at the claimed inventions. However, the publications are appropriate materials as cited documents when reasoning for arriving at the claimed inventions could be conducted based on other viewpoints, such as related technical fields or common working or functions, even if the publications provide the descriptions that hinder a person skilled in the art from easily arriving at the claimed inventions at first glance, for example problems to be solved are different.

[Example 1] The claimed invention and the cited invention cannot serve as materials to be compared since the claimed invention provides an application of carbon dioxide to decomposition of magnesium carbonate while the cited invention denies it.

(Reference: Decision by the Tokyo High Court, May 25, 1989 [Showa 62 (Gyo Ke) 155])

[Example 2] The cited invention 1 provides the device for attaching transformers, in which it becomes thinner by devising a method of attaching terminal pins. Applying the structure of the cited invention 2 to the terminal pins in the cited invention 1 is an idea that contradicts the purpose of the thin device even by deliberately providing by-bass ports for devising a method of attaching terminal pins. Accordingly, the claimed invention is not considered to be an art which a person skilled in the art could easily conceive, although both inventions provide the same aspect that the members are attachable on plane surfaces.

(Reference: Decision by the Tokyo High Court, May 28, 1998 [Heisei 8 (Gyo Ke) 91]; an example of the inventive step admitted in the light of an obstructive factor)

[Example 3] The presence of the claimed automatic wrapping machine is not considered to be obstructive due to the application of the technical idea described in the cited inventions 2 and 3 to the cited invention 1, the technical idea in which a single robot with two gripping means having independent working functions and the robot enables them to conduct two kinds of works selectively.

(Reference: Decision by the Tokyo High Court, February 10, 1999 [Heisei 10 (Gyo Ke) 131]; an example of denying the presence of an obstructive factor)

[Example 4] There is no fault in the judgment of appeal ruling that "Commonly, inert solvents for this type of general coating composition are appropriately contained in the compositions to adjust the property, such as viscosity, according to the coating means or conditions..., and the cited invention does not provide any technical obstruction relating to application of the inert solvents. Accordingly, it is understood that applying inert solvents (with diluents) to the cited invention is an idea which a person skilled in the art could easily conceive."

(Reference: Decision by the Tokyo High Court, May 19, 1999 [Heisei 9 (Gyo Ke) 111]; an example of denying the presence of an obstructive factor)

(2) Well-known or commonly used arts as references of the claimed inventions should be submitted since they are important materials constituting the state of the art, which can be grounds for a notice of reasons for refusal to a maximum extent, unless they are so well-known that the submission seems unnecessary. They are considered important regardless of whether or not they are used as a basis to find the cited inventions or to confirm the knowledge of a person skilled in the art (about the state of the art including the common general knowledge) or to confirm ability (about using general technical means for research and development or about creating arts ordinarily).

(3) The Prior arts before the filing of the applications described in the specifications of the claimed inventions could be a basis of determining the inventive step of the claimed inventions. This can be accomplished by citing the prior arts as components of the state of the arts as of the filing when the applications admit that the prior arts are publicly known.

(4) The inventive step of the claimed inventions providing formal and substantial alternatives <sup>Note</sup> relating to the matters used to specify the inventions for which patents are sought are denied when the examiners compare the claimed invention, whose only one of these alternatives is presumed to be a factor used to define the claimed inventions, and the cited inventions for reasoning and they uphold the reasoning if the reasoning is valid.

In addition, this approach does not influence the approach for deciding the appropriate time to finish prior art searches. For details, see "Part IX How to Proceed Examinations."

Note: For details of "Formal or Substantial Alternatives," see Note 1 of 1.5.5 above.

(5) The inventions filed for processes for manufacturing products and use of the products involve inventive step when the products per se involve inventive step in principle.

(6) Commercial successes or facts following the successes are analyzed to positively support the presence of the inventive step insofar as the examiners are convinced by applicant-submitted assertions or proof that these facts are derived from the features of the claimed inventions, not from other factors such as sales promotion techniques or advertisements.

[Example 1] It should be said that the idea that the application of said remaining gas in oil refineries made of the composition provided in the claimed invention is an idea totally different from that in the cited invention, which person skilled in the art is not able to easily apply. The claimed invention apparently provides that the application of the remaining gas as an exhaust gas in oil refineries actually brings the economic effect, in which raw materials are supplied extremely cheaply and wastes are effectively used, and the effect is considered to be prominent. Accordingly, it is not admitted that the claimed invention is the invention that a person skilled in the art could have easily invented.

(Reference: Decision by the Tokyo High Court, December 9, 1992 [Heisei 1 (Gyo Ke) 180])

[Example 2] The commercial success of the products worked by the claimed invention does not affect the fact that the working effect of the products is easily expected, as the plaintiff asserts.

(Reference: Decision by the Tokyo High Court, July 10, 1997 [Heisei 8 (Gyo Ke) 193])

#### 2.9 Notice of Reasons for Refusal under the Provision of Patent Act Article 29(2)

A notice of reasons for refusal is sent to applicants when the examiners have concluded that claimed inventions are unpatentable under Article 29(2).

The applicants have opportunities to argue against the notice of reasons for refusal or clarify their refused applications by submitting written opinions or certificates of experimental results.

The reason for refusal is cancelled when the applicants deny the convictions of the examiners that the claimed inventions are unpatentable according to Article 29(2) to the extent that truth or falsity becomes unclear, by submitting written opinions or certificates of experimental results. The inventive step of the claimed invention is refused due to lack of the inventive step when the convictions of the examiners do not change.

#### 3. Examples of Approaches for Determining the Novelty

## **3.1** Reasonable Doubts for Determining the Novelty of the Claimed Invention that the Claimed Invention and Cited invention Are Prima Facie Identical

(See "Part II, Chapter 2, Novelty and Inventive Step and 1.5.5 Determining the Novelty of the Inventions")

For some claims providing descriptions intending to define the products by working, functions or characteristics, which are included in the following i) or ii), the examiners shall send a notice of the reasons for refusal for the lack of the novelty when they have a reasonable doubt that the products in the claimed inventions and cited inventions are prima facie identical, without comparison of the products between the claimed inventions and the cited inventions for finding the exact corresponding and differing points. That is unless differences are found in other sections. And the applicants have opportunities to argue against the notice of reasons for refusal or clarify their refused applications.

However, this approach should not be applied to the inventions, whose matters used to specify the cited invention are included in the following i) or ii), as cited inventions:

i) Inventions not included in any of the inventions whose working, functions, or characteristics

are common, used among a person skilled in the art commonly, or understood by a person skilled in the art that they are not commonly used but related to the arts commonly used; or ii) Inventions included in either of the inventions whose working, functions, or characteristics are common, used among a person skilled in the art commonly, or understood by a person skilled in the art that they are not commonly used but related to the arts commonly used, but some of the working, functions, or characteristics are combined and the combinations are included in the inventions defined by said i) as a whole.

The following are examples of this case in which the examiners have a reasonable doubt that the products in the claimed invention and cited inventions are prima facie identical in respect to the claims providing numerical ranges or numerical formulae, including inequalities, which define the products by "working, functions, or characteristics":

I. The "working, functions, or characteristics" of the claimed inventions are found to be convertible to other working, functions, or characteristics specified by other definitions or testing or measuring processes, and it is found that the products of the cited inventions are considered to be identical to those of the claimed inventions from the results of the conversion;

II. The claimed inventions and cited inventions, which are defined by identical "working, functions, or characteristics," have different measurement conditions on the "working, functions, or characteristics" that have a constant relationship with measurement values, where the "working, functions or characteristics" of the cited inventions are highly likely to be included in the values in the numerical ranges or numerical formulae, including inequalities, in the claimed inventions when the "working, functions, or characteristics" of the cited documents are measured by the conditions of measurement of the claimed inventions;

III. The claimed inventions and cited inventions, which are defined by similar "working, functions, or characteristics," have different evaluation processes and also have a constant relationship between the evaluation processes, where the "working, functions, or characteristics" of the cited inventions are highly likely to be included in values of the numerical ranges or numerical formulae, including inequalities, provided in the claimed inventions when the products of the cited documents are defined by the evaluation processes of the claimed inventions;

IV. The cited inventions are found to be identical or similar to the arts described in the working examples in the specifications or drawings of the claimed inventions, such as cited inventions providing identical manufacturing processes and similar starting material to those described in the working examples, or cited inventions providing similar manufacturing processes and identical starting material to those described in the working examples; and

V. The cited inventions and claimed inventions have common matters used to specify the inventions other than sections by the "working, functions, or characteristics" and the cited inventions provide problems to be solved or effects of the inventions identical to the problems or advantageous effects in the matters used to specify the inventions by the "working, functions, or characteristics."

## 3.2 Notice of Reasons for Refusal Based on Reasonable Doubts that the Claimed Invention and Cited Invention Are Prima Facie Identical

(See "Part II, Chapter 2, Novelty and Inventive Step, 1.6 Notice of reasons for refusal under the provision of Patent Act Article 29(1)")

When the examiners have a reasonable doubt that claimed inventions are prima facie unpatentable under Article 29(1), they need to show the grounds of the reasonable doubt and show their views on the effective arguments or clarifications about the inventions, if necessary.

For example, the examiners require applicants through a notice of reasons for refusal to submit a certificate of experimental results that clarifies that the product of the claimed invention and the product relating to the specific working example recognized as a cited invention in the notice of reasons for refusal are not identical for logical arguments or clarifications in the notice of reasons for refusal when the quantitative comparison of these products' "working, functions, or characteristics" between the claimed and cited inventions are necessary.

The applicants have opportunities to argue against the notice of reasons for refusal or clarify their refused applications by submitting written opinions or certificates of experimental results. The reason for refusal is cancelled when the applicants deny the conviction of the examiners that the claimed inventions are unpatentable according to Article 29(1) to the extent that truth or falsity becomes unclear, by submitting written opinions or certificates of experimental results. The novelty of the claimed invention is decided to be refused due to a lack of novelty when the convictions of the examiners do not change.

## **3.3 Notices of Reasons for Refusal Based on Written Materials, Such as Certificates of Experimental Results, Submitted through Offer of Information**

The applicants are often required to conduct experiments to prove that the claimed inventions providing numerical ranges or numerical formulae, including inequalities, as definitions of the products by "working, functions, or characteristics" are the inventions disclosed in the publication distributed before the filing of the applications.

In light of the requirement of experiments, the information offer system allows to submit "documents" explaining that the claimed inventions are disclosed in the publications distributed before filing the applications, such as certificates of experimental results. such documents as certificates of experimental results should include descriptions to be proved, details of experiments, and descriptions specific are described explicitly enough to show the results of the experiments.

When certain information, such as certificates of experimental results, refers to the notices of reasons for refusal submitted though the information offer system, the notice of reasons for refusal should contain the submission date and names of the experimenters provided in the notices to specify the evidence to be referred.

These documents, such as certificates of experimental results, submitted though the information offer system are available to be accessed.

The following are examples that notices of reasons for refusal should be sent based on the reasonable doubts and an example of certificates of experimental results:

#### Example 1 Type: 1

Description in the application concerned

#### [Claim 1]

A polyvinyl chloride resin particle having an average particle diameter R of 150 to 190 $\mu$ m, and pore volume A (cc/g) satisfying the following expression; 0.15 logR $-0.11 \le A \le 0.34$ 

#### Cited document

[Title of the invention] Method of granulating polyvinyl chloride resins

[Working example]

a polyvinyl chloride resin having an average particle diameter of 180µm and 27% in porosity was produced by a suspension polymerization method. And this polyvinyl chloride resin was...

#### Explanation

When the value of the average particle size of the polyvinyl chloride resin described in the cited document is assigned to a left-hand side of the claimed expression, it can be 0.15log 180–0.11 nearly equal to 0.228. Also, as the specific gravity (d) of the polyvinyl chloride resin is normally from 1.16 to 1.55, the pore volume A (cc/g) of the polyvinyl chloride resin whose porosity is 27% can be determined by " pore volume per unit volume" / "weight per unit volume," that is to say, 0.27/(1 - 0.27) d and it can be "A = 0.239 - 0.319." Accordingly, as the polyvinyl chloride resin described in the cited document satisfies the claimed expression, a reasonable doubt that the polyvinyl chloride resin described in the cited document is prima facie identical to the claimed one is upheld.

Example 2 Type: 2

Description in the application concerned

#### [Claim 1]

A biaxially oriented polyester film, that contains 0.1 to 0.6 w% of small inorganic particles having an average particle diameter of 0.03 to 0.2 µm, and 0.002 to 0.03 w% of large inorganic particles having an average particle diameter of 0.3 to 1.2 µm, where the average particle diameter is greater than the average particle diameter of the small inorganic particles by at least 0.2 µm, and whose thickness is 6.0 to 10.0 µm <u>and heat</u> <u>shrinkage factor in heat treatment at 90</u> <u>degrees centigrade for 1 hour under no load</u> <u>is not more than 0.8%</u>.

#### [Detailed description of the invention]

... In the film of the claimed invention, the heat shrinkage factor in heat treatment at 90 degrees centigrade for 1 hour under no load is required to be not more than 0.8%. When the heat shrinkage factor is more than 0.8%, a tape produced from a film that has such a heat shrinkage factor causes a thermal irreversible change, which is not preferable. ..... Cited document

[Title of the invention] Biaxially oriented polyester films

## [Working example]

Polyethylene-2,6-naphthalate containing 0.5 w% of silica particles having an average particle diameter of 0.1µm and 150ppm of calcium carbonate particles having an average particle diameter of 0.5µm was extruded to give an unstretched film. The film was stretched lengthwise at a stretch ratio of 3.9 times at 150 degrees centigrade, stretched widthwise at a stretch ratio 4.0 times at 130 degrees centigrade, and heat-treated for 6 seconds at 200 degrees centigrade to give a film with a thickness of 8µm. The heat shrinkage factor of the film in heat treatment at 150 degrees centigrade for 1 hour under no load was <u>1.4%.</u>

#### Explanation

As the heating temperature for measuring the heat shrinkage factor differs between the claimed film and the film described in the cited document, it is impossible to compare their heat shrinkage factor. However, for the polyester film generally requiring size stability, the lower the measured temperature becomes, the smaller the thermal shrinkage factor becomes. Therefore, when the thermal shrinkage factor of the polyester film described in the cited document is measured at 90 degrees centigrade, it is highly likely that the thermal shrinkage factor would be included in the numerical range described in the claimed invention. Consequently, a reasonable doubt that the claimed film is prima facie identical to that described in the cited document is upheld.

Example 3 Type: 3

Description in the application concerned

[Claim 1]

A laminated film, in which layer A consisting of thermoplastic resin containing particles is laminated on layer B consisting of polyester containing no particle, with the protrusions of  $0.12\mu$ m or less in average height formed in the rate of  $1.6 \times 10^4 - 1.6 \times 10^5$  pieces/mm<sup>2</sup> on the surface of layer A and with a <u>0.002 - 0.02\mum of the three-dimensional center surface average roughness SRa.</u>

[Detailed description of the invention]

... The surface roughness was measured by using a high precision surface roughness meter ZZ produced by XX manufacturing Co. Ltd. under the conditions of cut-off value 0.25mm and ZX. The threedimensional center surface average roughness SRa ( $\mu$ m) is obtained from the following expression, where a portion of area S<sub>M</sub> is cut off from the rough surface on the center surface, and the axis orthogonal to the center surface of the portion is expressed by the Z-axis and a value obtained from the expression is expressed by the unit  $\mu$ m:

$$SRa = \frac{1}{S_M} \int_0^{LX} \int_0^{LY} |f(X,Y)| dx dy$$

(wherein LX  $\cdot$  LY=S<sub>M</sub>)

. . . . . .

#### Explanation

Cited document

[Title of the invention] Laminate films

[Detailed description of the invention]

... <u>The center line surface</u> <u>roughness Ra</u> is measured by using a high precision surface roughness meter OO produced by XX manufacturing Co. Ltd. and a chart is drawn under the condition of cut-off value 0.08mm and OX, according to JIS B0601. A portion of measured length L is cut out from a film surface roughness curve to the direction of the center line. When the center line of the portion is expressed as an X axis, the vertical direction is expressed as a Y axis, and a roughness curve is expressed as Y = f(X), the value obtained from the following expression is Ra (µm):

$$Ra = \frac{1}{L} \int_0^L |f(X)| dx$$

This measurement is practiced on four points as the reference length is 1.25mm and Ra is expressed in the average value.

#### [Working example]

The polyethylene containing the talc particles in 40 w% with 0.05µm in average particle diameter and the polyethylene terephthalate containing no particle were coextruded under the condition of ....., stretched and heat treated to obtain a biaxially oriented film of 9.8µm. The microprotrusions of 0.1µm or less were formed at the rate of 55,000 pieces/mm<sup>2</sup> on the surface of the polyethylene layer and <u>the center line</u> <u>surface roughness Ra was 0.009µm.</u>

Since the claimed method for evaluation of measured surface roughness is different from the one described in the cited document, it is impossible to compare them directly. However, there is no statement in the present description and the cited document that the film surface roughness has directionality or specific distribution; and if it provides a general film without directionality or specific distribution in the surface roughness, it can be considered that the values of three-dimensional center surface roughness and the center line surface roughness will become almost the same even when the difference in concrete measurement conditions is taken into consideration. Considering all mentioned above, when the surface roughness of the film described in the cited document is evaluated by the three-dimensional center surface average roughness, it is highly likely that the surface roughness of the film described in the cited document would be included in the numerical range provided in the claimed invention. Consequently, a reasonable doubt that the claimed film is prima facie identical to that described in the cited document is upheld.

Example 4 Type: 3

Description in the application concerned

#### [Claim 1]

The silica fine particle for plastic compounding whose average particle diameter is in  $0.02-1\mu$ m, whose <u>area ratio</u> for a circumscribed circle defined in the following expression is over 90%, and whose standard deviation of the particle diameter is 1.1 - 1.2.

The area ratio for a circumscribed circle =

"projected area of particle"  $\, imes \, 100$ 

"area of a circumscribed circle for a particle"

[Detailed description of the invention]

... The particle shape of the silica is important. A sheet whose slipperiness and abrasion resistance are excellent would be obtained by using particles whose shapes are close to the spherical. The area ratio for a circumscribed circle is used as an evaluation method for sphericity. Concretely, selecting any 20 particles from the images of electron microscope pictures that are used for measuring the average diameter of particles, the projected area of each particle was measured by an image analyzer. Also, the area ratio was gained by calculating the area of a circle for the particles. ...

#### Cited document

[Title of the invention] Filler

[Detailed description of the invention]

... The fine spherical silica particle in the claimed invention that constitutes filler for plastic <u>shapes spherical</u> <u>individually and extremely close to</u> <u>sphericity. It would be evaluated by a</u> <u>particle diameter ratio b/a of a major axis</u> (a) and a minor axis (b). The particle diameter ratio would be measured by the electron microscope pictures.

#### [Working example]

... The shape and the standard deviation of the particle diameter of the filler consisting of these fine silica particles were shown as follows.

	Average	Particle	Standar
	particle	diameter	d
	diameter	ratio b/a	deviatio
	(µm)		n
Example 1	25	0.90	1.1
Example 2	35	0.89	1.2
Example 3	50	0.88	1.3

#### Explanation

Since the claimed silica fine particle and the silica fine particle described in the cited document are different in the evaluation method for sphericity, they cannot be compared directly. However, since the silica fine particle described in the cited document is high in sphericity and fine, the area ratio can be estimated by converting the shape of a projected cross section to an ellipse. And considering the high sphericity of the claimed silica fine particle as well, an effect to the area ratio of the surface property is extremely small. Accordingly, when the sphericity of the silica fine particle with the particle diameter ratio of 0.9 described in the cited document would be measured by the area ratio described in the claims, it is highly likely that the area ratio described in the cited document would be included in the claimed invention. Consequently, a reasonable doubt that the claimed silica fine particle is prima facie identical to that described in the cited document is upheld.

Example 5 Type: 3

Description in the application concerned

#### [Claim 1]

A rubber composition for tire that is excellent for abrasion resistance, which comprises 100 parts by weight of at least one rubber component selected from the group of natural rubber and diene synthetic rubber and 30 - 60 parts by weight of carbon black having <u>a CTAB</u> <u>adsorption specific surface area of 70–</u> <u>123m<sup>2</sup>/g</u> and a DBP oil absorption amount of 110–155ml/100g.

[Detailed description of the invention]

... <u>A carbon black with significantly</u> fewer surface pores is used in the claimed rubber composition for tires, to improve the abrasion resistance....

[Working example]

In working examples, the following carbon black is used.

No	1	2	3
CTAB(m <sup>2</sup> /g)	72	96	105
DBP(ml/100g)	143	146	138
	145	140	130

\*CTAB surface area by absorption (CTAB : cetyltrimethylammonium bromide) ASTM D3765–80 \*DBP (dibutyl phthalate) JIS K6221

#### Explanation

The value of the CTAB <u>adsorption specific</u> surface area of the carbon black is not described in the cited document. Usually, the CTAB <u>adsorption specific</u> surface area indicates the effective specific surface area not including the surface pores on the carbon black. On the other hand, the nitrogen absorption specific surface area indicates the total specific surface area including the surface pores on the carbon black has an excellent abrasion resistance and fewer surface pores, the values of CTAB <u>adsorption specific</u> surface area and nitrogen absorption specific surface area would be considered to be an almost identical level to each other. Accordingly, it is highly likely that the measured CTAB <u>adsorption specific</u> surface area of the carbon black described in the cited document would be included in the claimed invention. Consequently, a reasonable doubt that the claimed rubber composition is identical to the rubber composition described in the cited document is upheld.

Cited document

[Title of the invention] Carbon black with high abrasion resistance

[Detailed description of the invention]

... <u>The claimed carbon black is</u> <u>excellent in abrasion resistance because</u> <u>of the reduced number of surface pores.</u>

[Working example]

The nitrogen absorption <u>specific</u> <u>surface area</u> ( $N_2SA$ ) and DBP oil absorption amount of the produced carbon black are shown as follows:

No	1	2	3
N <sub>2</sub> SA (m²/g)	99	125	138
DBP(ml/100g)	143	149	121
*N <sub>2</sub> SA ASTM D3037-88			

\*DBP JIS K6221

A rubber composition was set as 100 parts by weight of diene synthetic rubber and 45 parts by weight of the carbon black described above, and using the rubber composition, the tire was produced with a general method. The abrasion resistance of the tire was measured under the conditions as follows... Example 6 Type: 4

Description in the application concerned

## [Claim 1]

The ethylene-propylene copolymer wherein the polymerization degree is 100 – 300, whose ethylene content is 20 – 40 weight percent and drawdown property is 20–50m/min.

[The "drawdown property" means the winding speed of a ropy object at the time of cut-off when the winding speed of a winding roller is increased gradually after the melted olefin resin heated to 200 degrees centigrade is extruded in the shape of a rope at the constant speed of 1mm/s from a die with 2mm wide and 5mm long in aperture cross section, and then, the ropy object is passed through a feeding roller positioned above a tensiondetecting pulley to be positioned below a nozzle for winding.]

#### [Detailed description of the invention]

In order to obtain the ethylenepropylene copolymer whose drawdown property is 20 – 50m/min or less, <u>usually,</u> <u>an ethylene-propylene copolymer with 100</u> – 300 of polymerization degree and 20 – 40% of ethylene content would be stirred in a reactor substituting with inert gas, and then, be reacted at 100 – 120 degree centigrade for about 5 – 7 minutes, while continuing to stir the copolymer after having 5 – 10mmol/kg of the peroxide added to the resin. Cited document

[Title of the invention] Ethylene-propylene copolymer

#### [Working example]

The ethylene-propylene copolymer is obtained by adding the 0.8mmol peroxy carbonate to 100 g of the ethylene-propylene copolymer (with 200 in polymerization degree and 30 weight % of ethylene content) in a reactor, reacting them at 90 degrees centigrade for 10 minutes while continuing to stir the copolymer under the argon gas, and then stopping the reaction.

#### Explanation

Although the cited document does not disclose any information about the drawdown property of the ethylene-propylene copolymer, the ethylene-propylene copolymer described in the cited document is produced by using the same starting material as the one of the claimed invention and by the production process almost the same as the one of the claimed invention. Consequently, a reasonable doubt that the claimed ethylene-propylene copolymer is prima facie identical to the ethylene-propylene copolymer described in the cited document is upheld.

Example 7 Type: 5

Description in the application concerned

## [Claim 1]

A polyester film for a magnetic recording medium including inactive particles in 3 - 15 w% and whose thickness is  $20\mu$ m or less, where it meets the following requirements; the ratio d/t is 0.01 - 0.04, where d means the average diameter of contained particles and t means the thickness of the base film; and, the planar orientation coefficient Ns and the average refractive index na meet the relational expression below;

#### <u>Ns 1.53na – 2.33</u>

[Detailed description of the invention]

... <u>The film satisfying the relation</u> of Ns greater than or equal to 1.53na-2.33 has a high Young's modulus in height and width as over 750kg/mm<sup>2</sup>. When it satisfies the relation above, it has an excellent electromagnetic conversion property, over +2.0dB, used as a magnetic tape...

## [Working example 1]

... <u>Measuring the Young's modulus</u> of the polyethylene terephthalate film obtained in this way, <u>it was read as</u> <u>850kg/mm<sup>2</sup> in height and 750kg/mm<sup>2</sup> in</u> width, and the electromagnetic conversion property was read as +2.0dB.

[Working example 2]

... Measuring the Young's modulus of the polyethylene-2,6-naphthalate film obtained in this way, <u>it was read as</u> <u>750kg/mm<sup>2</sup> in height and 870kg/mm<sup>2</sup> in</u> width, and the electromagnetic conversion property was read as +2.0dB.

#### Cited document

[Title of the invention] Polyester films for magnetic recording medium

[Working example]

The un-stretched film of 180µm obtained by the process that was polyethylene terephthalate containing 10 w% of titanium oxide whose average particle diameter is 0.2µm was melted and extruded at 300 degrees centigrade, and then rapidly solidified. After the unstretched film was stretched 3.7-fold in height and width at the temperature of 150 degrees centigrade, it was treated with heat at 210 degrees centigrade for 10 seconds, and then, a stretched film of 6.5µm in thickness was obtained. The Young's modulus of this film was measured as 870kg/mm<sup>2</sup> in height and <u>900kg/mm<sup>2</sup></u> the in width, and electromagnetic conversion property of this film was measured as +3.0dB.

#### Explanation

It is not described in the cited document that the planar orientation coefficient Ns and the average refractive index na satisfy the relation of "Ns \_\_1.53na - 2.33". However, the description in the claimed invention says that the Young's modulus in height and width and the electromagnetic conversion property would be improved as an effect of satisfying the said relation. Moreover, the concrete values are almost the same as those of the Young's modulus and the electromagnetic conversion property described in the cited document. Consequently, a reasonable doubt that the claimed film is prima facie identical

to the film described in the cited document, which achieves the same level of advantageous effect by satisfying the above described relation between the planar orientation coefficient Ns and the average refractive index na, is upheld.

Example 8 Type: 5

Description in the application concerned

[Claim 1]

A polyethylene-2, 6-naphthalate film which is characterized in that the <u>number of the protrusion whose height is h</u> (<u>nm</u>) formed on the film surface is within the scope shown as follows;

 $1 \le h < 100 : 1,000 - 20,000 \text{ pieces/mm}^2$ 

 $100 \leq h: 0-50 \text{ pieces/mm}^2$ ,

and the film surface roughness Ra is 2-10nm.

[Detailed description of the invention]

... The film that satisfies the conditions of  $1 \leq h < 100 : 1,000-20,000$  pieces/mm<sup>2</sup>, 100  $\leq h : 0-50$  pieces/mm<sup>2</sup> is good in handling as the base film and excellent in the running when it is used as a magnetic tape. .....Also, the film whose surface roughness Ra is within the range of 2–10nm is good in handling as the base film and the running when it is used as a magnetic tape....

[Working example]

	Ex. 1	Ex. 2	Comp. Ex. 1	Comp. Ex. 2
Number of surface protrusion $1 \le h < 100$ : $100 \le h$	15,32 5 10	3,48 0 14	22,389 120	21,309 21
Ra (nm)	8	6	29	12
Running Durability	Good	good	bad	Not good

#### Explanation

It is not described in the cited document that the relationship between the height and the number of the protrusion satisfies the conditions of  $1 \le h < 100 : 1,000 - 20,000$ pieces/mm<sup>2</sup>,  $100 \le h : 0 - 50$  pieces/ mm<sup>2</sup>. According to the detailed description of the invention in the claimed invention, the effect that is obtained by specifying the conditions of relation between the height and the number of the protrusion described above is identical to the effect obtained by specifying the range of surface roughness (improvement in film-handling performance and running). In addition, it only describes the comparative examples of the inventions that have not satisfied both conditions of the relation between the height and the number of the protrusion, and the range of surface roughness. Therefore the sole effect led by specifying the relationship between the height and the number of the protrusion described above cannot be confirmed. On the other hand, the problems to improve the running and the solutions for controlling both the surface

Cited document

[Title of the invention] Magnetic recording film

[Claim 1]

Magnetic recording film in which ......and the surface roughness Ra is 3 - 8nm.

[Detailed description of the invention]

... The film whose <u>range of</u> <u>surface roughness meets the range of the</u> <u>claimed invention</u> is good in handling the film and the running when it is used as a magnetic tape. And, <u>even if the range of</u> <u>surface roughness meets the range of the</u> <u>claimed invention, it is desirable not to</u> <u>contain a rough and large protrusion</u> <u>because the remarkably high protrusion</u> <u>have a negative effect on the running</u> <u>when it is used as a magnetic tape,</u>.....

[Working example]

... a polyethylene-2, 6-naphthalate film was manufactured by being drawn and heat treated under the conditions of .....

The center line surface roughness Ra of this film was 5nm. <u>The running of this film</u> <u>used as a magnetic tape was more</u> <u>excellent than that of the conventional film,</u> <u>and the winding up in manufacturing of the</u> tape was also good. ..... roughness and the rough/large protrusion were recognized in the cited invention, because the cited invention also states that, even if the condition of the scope of surface roughness has been satisfied, a remarkably high protrusion may have a negative effect on the running. The film described in the cited document also achieves effects concerning running and handling the tape. As it turns out, the problems and the effect of the claimed invention for specifying the height and the number are not substantially different from those of the film described in the cited document. Consequently, a reasonable doubt that the claimed film is prima facie identical to the film described in the cited document is upheld.

An example of a certificate of experimental results (for proving the product described in a publication is identical to the product in the claimed invention)

Certificate of Experimental Results
(month)/(day)/(year) XX Laboratory Co., Ltd. Name: YY Seal
<ol> <li>Date of Experiment</li> <li>Place of Experiment</li> <li>Person in charge of experiment XX Laboratory Co., Ltd. Name: ZZ</li> </ol>
<ul> <li>4. Purpose of experiment Example:</li> <li>"The purpose of the experiment is to confirm that the polyethylene film in the claimed invention is identical to the polyethylene film described in Example 1 disclosed in JP.A.HOO-OOOOOO, by manufacturing the polyethylene film disclosed in the Example 1 and measuring the components XX and ZZ of the manufactured polyethylene film."</li> </ul>
5. Details of experiment The conditions for manufacturing the product concerned shall be shown concretely so that it may be clear that the product is the faithful reproduction of the product described in the publication. (Any conditions only described by a vague expression like "a film was manufactured in accordance with the Example 1 in JP.A.HOO- OOOOOO" are insufficient.) When new conditions are established for manufacturing the product or when it is impossible to carry out the experiment under the same conditions as those described in the publication, the reasons should also be described. In addition, the physical properties described in the publication are measured and described in order to confirm that the product described in the publication can be reproduced.
6. Result of experiment All necessary physical properties should be measured and described in order to confirm that the product described in the publication is identical to the product in the claimed invention. When the physical properties of the product are measured, the conditions should be shown concretely so that it becomes clear that they are the same as the measurement conditions in the claimed invention. (Any conditions only described by a basic expression like "XX and YY are measured under the same condition as that described in the claimed invention" are insufficient.) When the new conditions are established for the measurement or when it is impossible to carry out the experiment under the same conditions as described in the claimed invention, the reasons for these changes should also be described.