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 explains matters related to the provisions of Patent Act Article 29(1) regarding inventions lacking novelty, and Article 29(2) regarding inventions lacking an inventive step.

1. Novelty

Patent Act Article 29(1) reads: (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:
(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 a distributed publication in Japan or a foreign country, prior to the filing of the patent application.

(Note) A provision applied to an application on or after Jan.1, 2000 is as follows.
Patent Act Article 29(1) reads:

Any person who has made an invention which is industrially applicable may obtain a patent, therefore, except in the case of the following inventions:
(i) inventions which were publicly known in Japan or a foreign country, prior to the filing of the patent application;
(ii) inventions which were publicly worked in Japan or a foreign country, prior to the filing of the patent application;
(iii) inventions which were described in a distributed publication or made available to the public through electric telecommunication lines in Japan or a foreign country, prior to the filing of the patent application.
(Reference: Handling of inventions which were made available to the public through electric telecommunication lines (Patent Act Article 29 (1)(iii)), see Chapter.5)

1.1 Purport of the Provision of Patent Act Article 29(1)

The purport of the Patent System is to grant an exclusive right that is a reward for the disclosure of an invention, so that an invention which deserves a patent should be novel.

The provision of Patent Act Article 29(1)(i) to (iii) categorizes inventions lacking novelty, in order to define the scope of such inventions.

1.2 Patent Act Article 29(1)(i)–(iii)

1.2.1 Prior to the Filing of the Patent Application

"Prior to the filing of the patent application," not stating "prior to the date of filing of a

patent application," implies the definite time even in hours and minutes of the filing.

Consequently, the invention filed is deemed publicly known in Japan prior to the filing of a patent application, for instance, when the application is filed after noon on the date while the invention in question is publicly known before noon on the same date in Japan. The invention filed is deemed as having been described in a distributed publication in foreign countries prior to the filing of the patent application, when the application is filed after noon on the date in Japan while the publication is distributed in foreign countries before noon on the same date in Japan.

1.2.2 Publicly Known Invention

A "publicly known invention" within the meaning of Article 29(1)(i) means an invention the contents of which have been known to an unspecified person without obligation of secrecy.

An invention, which is disclosed by a person assuming a duty confidence to a third party without being aware of the secret nature, results in the "publicly known invention," irrespective of the inventor’s or the applicant’s intent to keep it secret.

For example, a manuscript for a journal of an academic society, in general, is usually kept secret against a third party, even after the receipt of the manuscript by the academic society. Therefore, the invention described in that manuscript is not considered a publicly known invention until its contents are released.

1.2.3 Publicly Worked Invention

A "publicly worked invention" within the meaning of Article 29(1)(ii) means an invention which has been worked under the conditions where the contents of the invention are to be publicly known (Note 1) or can potentially be publicly known (Note 2) & (Note 3).

(Note 1) "Conditions where the contents of the invention are to be publicly known" include, for example, a situation where a person skilled in the art may easily understand the contents of the invention by observing the manufacturing process associated with the invention at a plant that is exposed to an unspecified person.

(Note 2) "Conditions where the contents of the invention can potentially be publicly known" include, for example, a situation where, although inner parts of the manufacturing facility cannot be known to an unspecified person (a visiting inspector) by merely observing its exterior view and the person cannot know the invention as a whole without knowing that inner parts, the person is allowed to observe the inner parts or can have the inner parts explained. (i.e., the request for observation or explanation is not to be refused by the plant.)

(Note 3) The working of the invention, which has caused its fact to be publicly known, falls within a "publicly known invention" as stated in Patent Act Article 29(1)(i).
Meanwhile, the item (ii), ibid., includes a situation where the working has been publicly conducted, even without the finding of the fact that an invention has become publicly known as a result of working.

1.2.4 Invention Described in a Distributed Publication

(1) Distributed publication

A "publication" in the context of Article 29(1)(iii) is a document, a drawing or other similar medium for the communication of information, duplicated for the purpose of disclosing the contents to the public through distribution.

A "Distribution" in the context of the wording “inventions described in a distributed publication” provided in Article 29(1)(iii) means placing a publication as defined above in the condition where unspecified persons can read or see it. It does not necessitate the fact of a certain person’s actual access to such a publication.

[Example 1]

The invention should be said to fall under earlier Patent Act 4(2) without regard to whether the public could refer to the following specification of the application, since French patent specification that has been the same contents of the filed invention of the appellant, has been received by the JPO Industrial Property Library prior to the filing of the application for patent of the invention.

(Reference: Sho 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 contents of the film by using a display screen and obtain a copy of it.

(Reference: Sho 61 (Gyo Tsu) 18)

(2) Time of distribution

① When the time of publication is indicated in a publication, it is presumed as follows:

(i) In the case where only the year of a publication is indicated, the last day of that year;

(ii) In the case where a month and a year of a publication is indicated, the last day of the month of the year; and

(iii) In the case where a day, a month and a year of a publication is indicated, that date.

② In the case where the date of publication is not indicated in a publication

(i) The distribution date of a foreign publication is presumed in the light of the period normally required to reach Japan from the country of the publication, as far as the date of its receipt in Japan is clear.

(ii) In the case where there is a derivative publication such as a book review, an extraction or a catalog, the date of distribution of the publication in question is presumed based on the publication date of the derivative publication.

(iii) In the case where there is a second edition or a second print of the publication, the date of distribution is presumed to be the publication date of the first edition indicated therein.

(ⅳ) In the case where other appropriate information is available, the date of distribution is presumed or estimated therefrom.

③ In the case where the filing date of a patent application is the same as the date of the Publication In the case where the filing date of a patent application is the same as the date of the publication, the time of distribution is not deemed prior to the filing of a patent application, except when the filing time of application is clearly after the time of publication.

(3) Invention described in a publication

An "invention described in a publication" means an invention identified by the matters described or essentially described, though not literally, in a publication.

"Matters essentially described, though not literally, in a publication" means those directly derivable from the matters described, taking into consideration the common general knowledge (Note) as of the filing.

(Note) “The common general knowledge” means technologies generally known to a person skilled in the art (including well-known or commonly used art) or matters clear from empirical rules.
"Well-known art" means technologies generally known in the relevant technical field, e.g., many prior art documents, those widely known throughout the industry, or those well-known to the extent needless to present examples. "Commonly used art" means well-known art which is used widely.

1.3 Inventions Ruled by Novelty Requirement

The novelty requirement is applied to "claimed inventions."

1.4 Principle of Method of Determining whether a Claimed Invention is Novel

The examiner shall determine whether or not a claimed invention is novel by judging whether the claimed invention falls under the inventions categorized in the provision of Article 29(1)(i) to (iii).

When there are two or more claims in an application, the determination should be made for each claim.

1.5 Method of Determining whether a Claimed Invention is Novel

1.5.1 Finding of a Claimed Invention

The finding of a claimed invention should be made on the basis of the statements of the claim. Matters (terms) stated in the claim defining the claimed invention should be construed in the light of the description in the specification (excluding the claim(s)) (hereinafter referred to as "specification" in the explanation on Article 29(1)), the drawings and the common genera knowledge as of the filing.

The method of finding a claimed invention is as follows.

(1) When the claim statements are clear, the finding of the claimed invention should be made just as stated in the claim. Terms or language in such a claim should be construed as what they normally mean.

[Example 1]

The finding of the gist of the claimed invention, i.e., the finding of technical matters stated in the scope of claim, should be primarily based on the statements in the scope of claim. When the statements in the scope of claim is unambiguously clear so that it is possible to understand

the contents of the invention with accuracy by the statements, the finding of the gist of the claimed invention is not allowed to consider matters described in the detailed description of the invention. The description of the detailed description of the invention could be taken into account only when the statements themselves in the scope of claim are not directly clear enough to find its technical meaning.

(Reference: Hei 4 (Gyo Ke) 116)

[Example 2]

The finding of the gist of the claimed device is done in order to define the technical matters described in the scope of claim as a method of determining whether the filed device satisfies the registration requirements. The finding of the gist of the claimed device should be done according to the description in the scope of claim insofar as the technical matters in the scope of claim are clear. Limited construction of the gist of the claimed device in the light of the matters described in the detailed description or in the drawing is not allowed.

(Reference: Hei 1 (Gyo Ke) 42)

[Example 3]

The finding of the gist of an invention should be done as a premise that the invention will be compared with inventions given in each paragraph of Patent Act Article 29(1), when trial examination of novelty and an inventive step of the filing invention is made. Then, the finding of the gist of the invention should be done on the basis of the statements in the scope of claim in the specification, insofar as there was no special circumstance, such as the technical meaning of the statements in the scope of claim could not be understood unambiguously and definitely, or the statements was apparently wrong at first sight in the light of the description in the detailed description in the specification.

(Reference: Sho 62 (Gyo Tsu) 3)

(2) Even though the claim statements are clear, however, when terms or language used in the claim (matters defining the claimed invention) are defined or explained in the specification or the drawings, the definition or explanation should be considered when the terms or language are construed. A mere illustrating of more specific concepts contained in concepts of the matters in claims, which is described in a detailed explanation or the drawings, does not correspond to the definition or the explanation mentioned above.

When statements in a claim, unclear or difficult to understand, can be clarified by construing terms or language in the claim in the light of the description in the specification, the drawings and the common general knowledge as of the filing, they should be referred to when the terms or language are construed.

[Example 1]

Nomenclature should be used as the technical terms in the specification and the terms should be used in a normal sense. Thus, it is also necessary to refer to the definition or explanation in a dictionary, etc. for understanding or construction of the technical terms in the specification, but it is not appropriate to intend to understand or construe only by means of the above. Meanings or contents of the technical terms should be primarily understood or construed on the basis of the description in the said specification or the drawing.

(Reference: Hei 6 (Gyo Ke) 78)

[Example 2]

In the case where the meaning of the technical terms used in "the scope of claim" is different from what it normally means, and that effect is described in "the detailed description of the invention", or in the case where the statements in "the scope of claim" is obscure and difficult to understand and those meanings are defined in "the detailed description of the invention," it goes without saying that the description in "the detailed description of the invention" shall be taken into account in construing these terms and language.

(Reference: Sho 41 (Gyo Ke) 62)

[Example 3]

It is reasonably allowable to identify the correct meaning of the obscure technical terms or technical matters in the scope of claim in the light of the description in the detailed description of the device for rational construction of the statements in the scope of claim.

(Reference: Sho 47 (Gyo Ke) 33)

(3) If a claimed invention is not clear, even by referring to the description in the specification, the drawings and the common general knowledge as of the filing, the finding of the claimed invention should not be conducted.

(4) Even though there is inconsistency between an invention found in a claim and an invention described in the specification and the drawings, the finding and examination of an invention should not be made solely on the basis of the description in the specification and the drawings, disregarding the statements of the claim.

Even though they are described in the specification or the drawings, matters (terms or language), not stated in a claim, should not be treated as they do exist in the claim when the finding of the claimed invention should be made. On the other hand, matters (terms or language) stated in a claim should be always considered and should not be treated as they do not exist in the claim.

[Example 1]

In the case where the statements of "the scope of claim" is clear and the contents of the invention are correctly comprehended with such statements, it is not allowable to understand the contents of the said invention in the light of matters not described in "the scope of claim" but described in "the detailed description of the invention" when the finding the gist of the filed invention is done.

(Reference: Sho 41 (Gyo Ke) 62)

[Example 2]

The finding or construction of the gist of the invention should be conducted on the basis of the statements in the scope of claim. Then, it is not allowed to neglect matters described in the scope of claim or add matters not described insofar as there are not special circumstances.

(Reference: Sho 48 (Gyo Ke) 62)

1.5.2 Concrete method of finding the claimed invention in a claim using a specific expression

(1) When the claim includes an expression specifying a product by its work, function, property, or characteristic (hereinafter referred to as the “function, characteristic, etc.”)
① When a claim includes an expression specifying a product by its function, characteristic, etc. , such an expression should, in principle, be construed as every product that has such function, characteristic, etc., except when it should be construed otherwise according to 1.5.1(2). (see, Note below) For example, “a building-wall material incorporating a layer that insulates heat” should be construed as a building-wall material incorporating “a product” that is “a layer capable of performing a work or function of heat-insulation.”

(Note) For example, if a claim includes “heat-resistant alloy comprising a composition of...,” and the expression “heat-resistant alloy” should be construed as “alloy used for a purpose of requiring heat resistance” as a result of finding the claimed invention by taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing, the examiner should follow the guidelines set forth in “(2) When the claim includes an expression specifying a product by its use” below.

② However, if the function, characteristic, etc. is inherent in the product, such expression does not help to specify the product and it should be construed as the product per se.

Example 1: “Chemical compound X having an anticancer effect”

In Example 1, if the anticancer effect is a characteristic inherent in the specific chemical compound X, the expression “having an anticancer effect” does not help to specify the product, so it should be construed as the “chemical compound X” per se regardless of whether or not the chemical compound X was already known to have an anticancer effect. Therefore, if the chemical compound X is already publicly known, the claimed invention is regarded as lacking novelty. (In the case of “an anticancer agent comprising the chemical compound X,” the examiner should follow the guidelines set forth in “Part VII, Chapter 3 Medicinal Inventions”)

Example 2: “RC-integration circuit that cuts higher frequency signals and passes lower frequency signals”

In Example 2, the function “cuts higher frequency signals and passes lower frequency signals” is inherent in an “RC-integration circuit.” Therefore, Example 2 should be construed as a generic “RC-integration circuit.” However, it should be noted that if a claim includes “RC-integration circuit that cuts higher frequency signals of more than...Hz and passes lower frequency signals of less than...Hz,” the expression does not specify the product by a function inherent in a generic “RC-integration circuit” but it represents “a circuit with a specific frequency characteristic among generic RC-integration circuits.” Therefore, such an expression helps to specify the product.

③ There are also cases where an expression specifying a product by its function, characteristic, etc. should not be construed as a specific product among all products that have such function, characteristic, etc. when taking into account the common general technical knowledge at the time of the filing.

For example, if a claim includes “a means for fixing the first wooden member to the second plastic member,” it is clear that “a means for fixing” does not represent a fixation means used for metals, such as welding, among all fixation means.

(2) When the claim includes an expression specifying a product by its use (limitation of use)

Where a claim includes an expression specifying a product by its use, such as “for use as ...” (i.e. limitation of use), the examiner should determine what the limitation of use means to specify the claimed invention by taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing. (It should be noted that when the examiner is unable to understand the meaning as a matter specifying the claimed invention, the claim may constitute violation of Article 36(6)(ii).)

However, in the case of a chemical compound with a limitation of use such as “for use as ...” (e.g., the chemical compound Z for use as Y), such limitation of use usually only indicates the utility of the chemical compound alone. Thus, the claim should be construed to represent the chemical compound per se with no limitation of use (e.g., the chemical compound Z) without having to apply the approaches indicated in ① and ② below (see, Example 1) (court judgment for reference: Tokyo High Court Judgment of July 8, 1997 [1995 (Gyo Ke) No. 27]). This approach should be applied not only to chemical compounds but also to microorganisms.

Example 1: “Chemical compound Z for insecticidal use”

When taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing, the expression of “for insecticidal use” merely indicates the utility of the chemical compound. So the “chemical compound Z for insecticidal use” should be construed as the “chemical compound Z” per se with no limitation of use. Therefore, in this case, the “chemical compound Z for insecticidal use” and publicly known “chemical compound Z” with no limitation of use cannot be regarded as different inventions.

① General approach for the case where the claim includes a limitation of use

A limitation of use can be construed as a shape, structure, or composition (hereinafter simply referred to as a “structure, etc.”) which is particularly suitable for such use, by taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing. As in such a case, where a product with a limitation of use is construed as a product which is particularly suitable for such use, the product should be construed as a product with the structure, etc. represented by the limitation of use.

Therefore, even when the matters specifying the claimed invention and the matters specifying a cited invention are the same in all respects except for the limitation of use, if the structure, etc. represented by the limitation of use differs, the two should be regarded as different inventions (see, Example 2 and Example 3).

On the other hand, if a product with a limitation of use cannot be construed as a product which is particularly suitable for such use even by taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing, such limitation of use is not construed as having a meaning that specifies the product except when it should be construed as representing a use invention set forth in ② below.

Therefore, in this case, if the matters specifying the claimed invention and the matters specifying a cited invention are the same in all respects except for the limitation of use, the two

cannot be regarded as different inventions.

Example 2: “Hook that has the shape of...for use as a crane”

If the expression “that has the shape of...for use as a crane” is construed as describing the “hook” as having a structure with a particularly suitable size or strength to be used as a crane by taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing, the claimed invention should be interpreted as a “hook” that has such a structure. Therefore, a “hook that has the shape of...for use as a crane” is different from a similarly shaped “hook for use of fishing (fishhook)” because their structure, etc. is different.

Example 3: “Iron alloy that has Composition A for use as piano wire”

The expression “that has Composition A for use as piano wire” might be construed as expression describing the iron alloy as having a fine lamellar microstructure to give high tension, which is particularly suitable for piano wire, by taking into account the descriptions in the specification and drawings and the common general technical knowledge at the time of the filing. In such a case, the claimed invention should be interpreted as the “iron alloy” that has such fine lamellar microstructure. Therefore, the “iron alloy that has Composition A for use as piano wire” is different from iron alloy that has no such fine lamellar microstructure (e.g., “iron alloy that has Composition A for use as gear wheels”), because their structure, etc. is different.

② Approach for the case where an invention of product with a limitation of use should be construed as a use invention

Generally, a use invention is construed as an invention based on discovering an unknown attribute of a product and finding that the product is suitable for a new use due to the presence of such attribute.

Court judgments for reference: Tokyo High Court Judgment of April 25, 2001 (1998 [Gyo Ke] No. 401); Tokyo District Court Judgment of October 23, 1992 (1990 [Wa] No. 12094); Tokyo High Court Judgment of July 13, 2000 (1998 [Gyo Ke] No. 308); Tokyo High Court Judgment of February 10, 2000 (1998 [Gyo Ke] No. 364)

When a claim includes a limitation of use and the claimed invention can be construed as an invention based on discovering an unknown attribute of a product and finding that the product is suitable for new use due to the presence of such attribute, the limitation of use should be regarded as having a meaning that specifies the claimed invention and it is appropriate to construe the claimed invention by including the aspect of the limitation of use. Therefore, in this case, even if the product per se is already known, the claimed invention can be novel as a use invention (see, Example 4).

However, even when an unknown attribute has been discovered, if the claimed invention is not considered to provide new use for the product by taking into account the common general technical knowledge in the relevant technical field at the time of the filing, the claimed invention is regarded as lacking novelty. In addition, even when the claimed invention and a cited invention are inventions of products defined by different wordings in the limitation of use, the claimed invention is regarded as lacking novelty if the two cannot be distinguished in terms of their use by taking into account the common general technical knowledge in the relevant technical field at the time of the filing (see, Example 5 and Example 6).

Example 4: “Composition for use as antifouling coating applied to a ship bottom comprising a specific quaternary ammonium salt”

A “composition for use as electrodeposition primer comprising a specific quaternary ammonium salt” and a “composition for use as antifouling coating applied to a ship bottom comprising a specific quaternary ammonium salt” may be the same in all respects except for the limitation of use. However, if the use “as electrodeposition primer” is based on an attribute that it forms an electrodeposition coating layer on a member and also improves the adhesiveness of the overcoat layer, while the use “as antifouling coating applied to a ship bottom” is based on a discovery of an unknown attribute to prevent shellfish from adhering to the ship bottom, and is a new use that is based on such discovered attribute and different from known uses, this limitation of use is construed as specifying the “composition.” Therefore, the two inventions should be regarded as different inventions.

Example 5: “Yogurt containing Ingredient A for use of strengthening bones”

Even though “yogurt containing Ingredient A for use of strengthening bones” is an invention based on an unknown attribute that it promotes calcium absorption in bones, both “yogurt containing Ingredient A” and “yogurt containing Ingredient A for use of strengthening bones” are used as food. Therefore, “yogurt containing Ingredient A for use of strengthening bones” cannot be regarded as providing a new use as food; and “yogurt containing Ingredient A for use of strengthening bones” is regarded as lacking novelty in light of “yogurt containing Ingredient A.”

Considering the common general technical knowledge in the food field, with regard to any products used for food as well as yogurt, a discovery of a new attribute of publicly known food usually does not provide new use that can distinguish the invention from known food.

Example 6: “Cosmetic product for use of preventing skin wrinkles containing Ingredient A as an active ingredient”

Even though a “cosmetic product for use of moisturizing the skin containing Ingredient A as an active ingredient” is based on a skin conditioning attribute that it softens the stratum corneum and promotes the moisture absorption of the skin while a “cosmetic product for use of preventing skin wrinkles containing Ingredient A as an active ingredient” is based on an unknown skin-improving attribute that it accelerates production of Substance X inside the body and each of the two inventions includes different wordings in the limitation of use, the two cannot be distinguished in terms of their use, if they are both used as skin-care cosmetic products externally applied to skin and if it is common knowledge in the relevant field that a cosmetic product with a moisturizing effect conditions the skin by improving skin wrinkles through moisturizing and can also be used for preventing skin wrinkles. Therefore, if the two are the same in all respects other than the limitation of use, the latter invention is regarded as lacking novelty in light of the former invention.

(Note 1) In general, when an unknown attribute of a product is discovered and an invention is found to be creative in respect to its use for a certain purpose that was unknown as the purpose of use of the product, such invention can be novel as a use invention. This approach to use invention is generally applied to technical fields in which it is relatively difficult to understand how to use the product from the structure or name of the product

(e.g., the technical field of use of compositions containing chemical substances). On the other hand, the approach to use invention is not applied to machines, instruments, articles, and apparatuses because these products usually have fixed uses.

(Note 2) Even when the claimed invention provides a new use based on an attribute of the product, if a person skilled in the art could have easily arrived at such use based on known attributes or known product structures, the claimed invention is regarded as lacking an inventive step (Tokyo High Court Judgment of August 27, 2003 [2002 (Gyo Ke) No. 376]).

(Note 3) Looking at use inventions in respect to the expressions in the claims, there are claims expressed by agent form, the method of use or others as well as those expressed by limitation of use. The guidelines mentioned above can also be applied to use inventions other than those expressed by limitation of use. However, due to the reason indicated in 1.5.1(4), the applicable scope of the guidelines should be limited to the cases where any term that indicates use is included in the claims (e.g., “catalyst comprising ...,” “ornamental material comprising an ... alloy” and “method of killing insects using ...”).

(3) Claim statements defining a product by its manufacturing process (product-by-process)

Where a claim includes a statement defining a product by its manufacturing process, such a statement is construed as meaning a product per se unless it should be construed as different meaning in compliance with 1.5.1(2). (Note) If an identical product can be obtained by a different process from the one stated in the claim, thus, the claimed invention is not novel where the product is publicly known prior to the filing.

(Note) The reason of the above construction is that there are cases where a product cannot be defined by its structure but only can be defined by its manufacturing process (e.g., an invention of isolated protein) and that it is not appropriate to make a distinction between an invention defined by its structure and an invention defined by its manufacturing process. Thus, even though applicant's intention is clear to limit the claimed invention to only the product which is obtained by particular process, such as a claim reading as "Z which is obtained solely by process A," the claimed invention should be construed as the product per se.

Example 1: "Protein which is obtained by process P (steps p1, p2, ... and pn)"

In the case of Example 1, if the protein which is obtained by process P is identical with a publicly known particular protein Z which is produced by process Q, the claimed invention is not novel, irrespective of whether the process P is publicly known prior to the filing.

Example 2: "A two-layer structured panel which is made by welding together an iron sub-panel and a nickel sub-panel"

In the case of Example 2, If a panel of which structure is the same as the panel made by welding can be obtained by process other than welding where that panel is publicly known prior to the filing, the claimed invention is not novel. Since a product with the same structure as the product stated in the claim, however, cannot be obtained by any other process than welding, the claimed invention is novel unless a two-layer structured panel made by welding is publicly known

prior to the filing.

1.5.3 Finding of a Cited Invention as provided in Patent Act Article 29(1)(i)-(iii)

(1) Publicly known invention

"A publicly known invention" is one actually known by an unspecified person through the medium of people. Generally, it is often the case that it is known through the medium of speakers at lectures, presentations, etc. In such a case, the finding of an invention is made on the basis of the facts presented at the lectures or presentations.

The presented facts can be construed in the light of the common general knowledge. The matters directly derivable from the facts in consideration of the common general knowledge as of the lectures, presentations, etc., can also be a basis for the finding of a publicly known invention.

(2) Publicly worked invention

"A publicly worked invention" is one worked under conditions where the invention is or can potentially be publicly known to an unspecified person through the medium of machinery or systems, etc. Therefore, the finding of an invention is made on the basis of the facts embodied in machinery or systems, etc.

The facts embodied in machinery or systems, etc. can be construed in the light of the common general knowledge. The matters directly derivable from the facts in consideration of the common general knowledge as of the working can also be a basis for the finding of a publicly worked invention.

(3) Invention described in a publication

① The finding of "an invention described in a publication" is made on the basis of “the matters described in a publication.” Matters described in a publication can be construed in the light of the common general knowledge. The matters which a person skilled in the art can directly derive from matters described in a publication in consideration of the common general knowledge as of the filing (hereinafter referred to as "matters essentially described, though not literally, in a publication") can be a basis for the finding of an invention described in a publication. In other words, “an invention described in a publication" means an invention which a person skilled in the art can identify on the basis of the matters both described and essentially described, though not literally, in a publication.

Thus, unless an invention can be identified by a person skilled in the art on the basis of the matters both described and essentially described, though not literally, in a publication, the invention shall not be deemed to be "an invention described in a publication," i.e., "a cited invention" under Article 29(1)(iii). For example, where “matters described in a publication” are a part of alternatives of Markush-type formula, it is determined whether a person skilled in the art can identify an invention of which a matter is one of the alternatives.

(An example regarded as matters essentially described, though not literally, in a publication)
[Example 1]

The fact that the conductor as a shielding means for preventing electrical interference, is connected to an earth is recognized as the common general knowledge in the related electrical field. Consequently, the fact that a person skilled in the art is expected to presume that shield

plate for the switch disclosed in the cited document is connected to the earth should be recognized as a matter of course, even though it was not disclosed in the cited document. In view of the purport of the provision of Utility Model Act Article 3, it is reasonable that "a device described in a publication" in Section 3(1)(iii) corresponds to the technical idea that a general person skilled in the art can recognize in the description in a publication. ... When the cited document is read in the light of the above-mentioned common general knowledge, that “the shielding plate disclosed in the cited document is connected to an earth as a use mode” should be deemed as constituting the portion of the technical meaning of the term “shield plate” itself in the cited document so that it should be considered as essentially disclosed, though not literally.

(Reference: Sho 56 (Gyo Ke) 93)

(An example not regarded as matters essentially described, though not literally, in a publication)
[Example 2]

Attapulgite clay (acidic components) as the same effect substance of citric acid is indicated in the working example 6 in the cited document and is insoluble in a solvent. In addition, it is a reasonable understanding that only the use of solvent-insoluble phenol resin is indicated because a solvent-insoluble substance has been normally used as acidic components in the said technical field. Consequently, it is impossible to say that there is the description indicating that the soluble substance in a solvent that is common to basic component should be selected from "phenol resins" in the cited document.

(Reference: Sho 55 (Gyo Ke) 12)

② Unless it is clear that an invention is described in a publication in such a manner that a person skilled in the art can make the product in case of a product invention or can use the process in case of a process invention in consideration of the common general knowledge as of the filing, the invention shall not be deemed to be "a cited invention" under Article 29(1)(iii).

For example, if a chemical substance is expressed merely by its name or its chemical formula in a publication, and if it is not clear that a person skilled in the art can produce the chemical substance on the basis of the description in the publication, even in the light of the common general knowledge as of the filing, the chemical substance does not fall under “an invention described in a publication" under Article 29(1)(iii). (Note that the above does not mean that the claim violates the enablement requirement under Article 36(4) where the publication is a patent application claiming the chemical substance as one of alternatives of Markush-type formula.)

(4) The finding of a cited invention expressed in specific concept or generic concept

① A cited invention expressed in a specific manner in a disclosure necessarily implies or suggests “a generic invention of which matters defining the invention are the same family or the same genus, or have the common characteristic with the cited invention,” and leads to the finding of an invention expressed in generic concept (Note 1). Without the cited invention expressed in specific concept being identified to its generic invention, the determination of whether the claimed generic invention is novel may be conducted at the comparison and determination steps.

② A cited invention expressed in generic concept neither implies nor suggests an invention expressed in a specific manner, and does not lead to the finding of the invention expressed in a specific manner (except when an invention expressed in a specific manner can be directly

derivable from such a generic invention in consideration of the common general knowledge (Note 2)).

(Note 1) “Generic concepts” is defined as concepts integrating matters in the same family or the same genus, or a concept integrating a plurality of matters with the common characteristic.

(Note 2) The plain logic that generic concept contains specific disclosure, or a term in generic concept contains specific terms, does not substantiate the necessary derivation (disclosure) of an invention expressed in a specific concept.

1.5.4 Comparison of a Claimed Invention with a Cited invention

(1) The finding of the identicalness and the difference between a claimed invention and a cited invention is conducted by comparing the matters defining the claimed invention and the matters considered to be needed at the expression of the cited invention in words (hereinafter referred to as "matters defining the cited invention").

(2) A more specific concept within the concept of the claimed invention may be compared with a cited invention for the purpose of finding the identicalness and the difference between a claimed invention and a cited invention, instead of the method of comparison mentioned (1).

An example of “a more specific concept within the concept of a claimed invention” is the disclosed invention described in the detailed description of the invention or the drawing as a mode for carrying out the claimed invention. Inventions other than this may be compared with the claimed invention as far as they are more specific concepts within the concept of the claimed invention.

This alternative method would be helpful for the examination of novelty in terms of claims with statements defining a product by its function or characteristic, etc., or claims with numerical limitation, etc.

(3) In cases where the matters defining a claimed invention is compared with the matters described in a cited publication instead of the method of comparison mentioned (1) and 1.5.3(3), the finding of the identicalness and the difference between the claimed invention and the cited invention may be conducted in consideration of the common general knowledge as of the filing. But the result of using this method shall be the same as the result of the methods mentioned (1) and “1.5.3(3)”.

(4) The comparison shall not be conducted between a claimed invention and a combination of two or more cited inventions.

1.5.5 Determining whether a Claimed Invention is Novel

(1) Where there is no difference between the matters defining a claimed invention and the matters defining a cited invention as a result of the comparison, the claimed invention is not novel. Where there is a difference, the claimed invention is novel.

(2) If matters defining a claimed invention are expressed by alternatives either in form or de facto

(Note1), and if any one of inventions each of which is identified by supposing that each of the alternatives is a matter to define each of such inventions has no difference from a cited invention, the claimed invention shall be deemed not to be novel.(Note 2)

(Note 1) "Alternatives in form" means a claim statement with an apparent form of alternatives. Among claims with "alternatives in form" are a claim with Markush-type formula and a multiple dependent form claim which refers to two or more other claims in analternative form.

"Alternatives in de facto" means a claim statement which is of comprehensive nature but intends to include a certain number of more specific matters. Whether a claim statement is "de facto alternatives" should be determined in the light of the description in the specification, the drawings and the common general knowledge as of the filing in addition to the claim statement. Among typical examples of claims having "de facto alternatives" is a claim of which a matter defining the claimed invention is "an alkyl with 1 to 10 carbons." (The above claim statement of comprehensive nature includes a methyl, an ethyl and so on.)

As opposed to the above, a term "thermoplastic resin" in a claim should not be construed as one that merely denotes a certain number of more specified matters by means of the term of comprehensive nature except when it should be construed in the light of the description in the specification, the drawings and the common general knowledge as of the filing in such a case as the term is defined in the description of the invention. Thus, the term should not be deemed to be de facto alternatives. In other words, it should be construed that the concept of "thermoplastic resin" includes uncertain number of more specified matters (e.g., polyethylene, polypropylene, etc.), and that the term denotes a certain generic concept in terms of characteristic which the more specific matters have in common (i.e., "thermoplasticity" in this case).

(Note 2) The handling does not relate with the practice for the appropriate time to stop prior art searches. See " Part Ⅸ: Procedure of Examination."

(3) Handling of a claim with statements defining a product by its function or characteristic, etc.

① Where a claim includes statements defining a product by its function or characteristic, etc. and it falls under either the following (i) or (ii), there may be cases where it is difficult to compare of the claimed invention with a cited invention. In the above circumstances, if the examiner has a reason to suspect that the claimed product would be prima facie identical with the product of the cited invention without making a strict comparison of the claimed product with the product of the cited invention, the examiner may send the notice of reasons for refusal under Article 29(1) as far as there is no other difference. Then an applicant may argue or clarify by putting forth a written argument or a certificate of experimental results, etc. against the notice of reasons for refusal. The reason for refusal is to be dissolved if the applicant’s argument succeeds in changing the examiner’s evaluation at least to the extent that it is unclear that the claimed product is prima facie identical with the product of the cited invention. Where the applicant’s argument, which is, for example, abstract or general, does not change the examiner’s evaluation to that extent, the examiner may render a decision of refusal under Article 29(1).

The above-mentioned handling, however, shall not be applied, if matters defining the cited invention fall under either the following (i) or (ii).

(i) a case where the function or characteristic, etc. is neither standard, commonly used by a person skilled in the art in the relevant technical field nor comprehensible of its relation to a commonly used function or characteristic, etc. to a person skilled in the art if the function or characteristic, etc. is not commonly used, or
(ii) a case where plural of functions or characteristics, etc. each of which is either standard, commonly used by a person skilled in the art in the relevant technical field or comprehensible of its relation to a commonly used function or characteristic, etc. to a person skilled in the art if the function or characteristic, etc. is not commonly used, are combined in a claim so that the claim statements as a whole fall under (i).

(Note) Function or characteristic, etc. should be deemed to be standard if it is either defined by JIS (Japanese Industrial Standards), ISO-standards (International Organization for Standardization-standards) or IEC-standards (International Electro-technical Commission-standards), or if it can be determined quantitatively by a method for testing or measuring which is provided in those standards. Function or characteristic, etc. should be deemed to be commonly used by a person skilled in the art if it is commonly used by a person skilled in the art in the technical field as well as its definition or the method for testing or measuring can be understood by a person skilled in the art.

② Examples where the examiner has a reason to suspect the prima facie identity are the followings:

- (s)he reveals that a prior art product is identical with the product of the claimed invention as a result of converting the function or characteristic, etc. into a different definition with the same meaning or a different method for testing or measuring the same;
- where a claimed invention and a cited invention are defined by identical or similar function or characteristic, etc. which are measured or evaluated under different measuring conditions or different evaluation methods, and there is a certain relationship between them, and there is a high probability that the function or characteristic, etc. defining the cited invention, if measured or evaluated under the same measuring conditions or evaluation method as the claimed invention, is included in the function or characteristic, etc. defining the claimed invention;
- a product of the claimed invention has been revealed identical in structure with a certain product after the filing and (s)he discovers the particular product is publicly known prior to the filing;
- (s)he discovers a prior art product which is identical with or similar to a mode for carrying out the claimed invention (for example, (s)he discovers a prior art product of which starting material is similar to and of which manufacturing process is identical with those of the mode for carrying out the claimed invention, or (s)he discovers a prior art product of which starting material is identical with and of which manufacturing process is similar to those of the mode for carrying out the claimed invention, etc.); and
- the claimed invention and a cited invention have common matters defining the inventions other than those defining a product by its function or characteristic, etc., and the cited invention has the same objective or effect as the matters defining a product by its function or characteristic, etc. have, and there is a high probability that the function or characteristic, etc. defining the cited invention is included in the function or characteristic, etc. defining the claimed invention

The examiner should follow the ordinary method when the requirement of novelty can be examined without using this exceptional handling.

(4) Handling of a claim with statements defining a product by its manufacturing process

① If a claim is one with statements defining a product by its manufacturing process, there may be cases where it is difficult to determine what is the product per se structurally. In such circumstances, if the examiner has a reason to suspect that the claimed product would be prima facie identical with the product of the cited invention without making a strict comparison of the claimed product with the product of the cited invention, the examiner may send the notice of reasons for refusal under Article 29(1), as far as there is no other difference, as mentioned in the above (3).

The above-mentioned handling, however, shall not be applied, if matters defining the cited invention include statements defining a product by its manufacturing process.

② Examples where the examiner has a reason to suspect the prima facie identity are the followings:

- (s)he discovers a product of a cited invention of which starting material is similar to and of which manufacturing process is identical with those of the product of the claimed invention;
- (s)he discovers a product of a cited invention of which starting material is identical with and of which manufacturing process is similar to those of product of the claimed invention;
- a product of the claimed invention has been revealed identical in structure with a certain product after the filing, and (s)he discovers the particular product is publicly known prior to the filing of the application; and
- (s)he discovers a cited invention which is identical with or similar to a mode for carrying out the claimed invention.

The examiner should follow the ordinary method when the requirement of novelty can be examined without using this exceptional handling.

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

If the examiner has a conviction that a claimed invention is unpatentable under Article 29 (1), (s)he will send a notice of reasons for refusal to an applicant.

The applicant may argue or clarify by putting forth a written argument or a certificate of experimental results, etc. against the notice of reasons for refusal.

The reason for refusal is to be dissolved if the applicant's argument succeeds in changing the examiner's evaluation at least to the extent that it is unclear that the claimed invention is unpatentable under Article 29(1). Where the applicant's argument does not change the examiner's evaluation to that extent, the examiner may render a decision of refusal on the ground of lacking novelty.

2. Inventive Step (Nonobviousness)

Patent Act Article 29(2) reads:

Where an invention could easily have been made, prior to the filing of the patent application, by a person with ordinary skill in the art to which the invention pertains, on the basis of an invention or inventions referred to in any of the paragraphs of Paragraph (1), a patent shall not be granted for such an invention notwithstanding Paragraph (1).

2.1 Purport of the provision of Patent Act Article 29(2)

The purport of the provision of Patent Act Article 29(2) is not to grant a patent to such inventions that were easily made by a person skilled in the art, since granting a patent to such inventions does not contribute to and even hampers the progress of technology.

2.2 Patent Act Article 29(2)

(1) "An invention or inventions referred to in any of the paragraphs of Paragraph (1)" means any of the inventions which were publicly known or publicly worked in Japan, and inventions described in a distributed publication in Japan or elsewhere prior to the filing of the patent application. (Note 1)

(Note 1) For the application on or after Jan 1, 2000, it means any of the inventions which were publicly known or publicly worked in Japan or elsewhere and inventions which were described in a distributed publication or made available to the public through electric telecommunication lines in Japan or elsewhere prior to the filing of the patent application.

(2) "A person with ordinary skill in the art to which the invention pertains" (referred to as "a person skilled in the art" hereinafter) provides a hypothetical person:

who has the common general knowledge as of the filing in the art to which the claimed invention pertains, and has ability to use ordinary technical means for research and development;

who has ability to exercise ordinary creativity in selecting materials and changing designs;

and who is able to comprehend as his/her own knowledge all technical matters in the state of the art (Note 2) in the field to which a claimed invention pertains at the time of filing a patent application.

In addition, a person skilled in the art is supposed to be able to comprehend as his/her own knowledge all technical matters in the field of technology relevant to a problem to be solved by an invention.

Further, there may be cases where it is more appropriate to think in terms of “a group of persons" than a single person.

(Note 2) "The state of the art" at the time of filing a patent application is constituted of "an invention or inventions referred to in any of the paragraphs of Paragraph (1)" and the common general knowledge and other publicly known technical matters (i.e., technical knowledge and information, etc.).

(3) "An invention could easily have been made, prior to the filing of the patent application, by a person with ordinary skill in the art to which the invention pertains, on the basis of an invention or inventions referred to in any of the paragraphs of Paragraph (1)" means that a person skilled in the art could have been able to easily arrive at a claimed invention by exercising ordinary creativity on the basis of the inventions provided in Article 29(1) (referred to as “cited inventions” hereinafter) prior to the filing of an application.

2.3 Invention Ruled by Inventive Step Requirement

An invention to be ruled by inventive step requirement is “a claimed invention" which has met novelty requirement.

2.4 Principle of Method of Determining whether a Claimed Invention Involves an Inventive Step

(1) Whether or not a claimed invention involves an inventive step is determined whether the reasoning that a person skilled in the art could have easily arrived at a claimed invention based on cited inventions can be made by constantly considering what a person skilled in the art would do after precisely comprehending the state of the art in the field to which the present invention pertains at the time of the filing.

(2) Concretely, after finding of a claimed invention and one or more cited inventions, one cited invention most suitable for the reasoning is selected. And comparison of the claimed invention with a cited invention is made, and the identicalness and the difference in matters defining the inventions are clarified. Then, the reasoning for lacking an inventive step of the claimed invention is attempted on the basis of the contents of the selected invention, other cited inventions (including well-known or commonly used art) and the common general knowledge. The reasoning can be made from various and extensive aspects. For example, the examiner evaluates whether a claimed invention falls under a selection of an optimal material, a workshop modification of design, a mere juxtaposition of features on the basis of cited inventions, or whether the contents of cited inventions disclose a cause or a motivation for a person skilled in the art to arrive at the claimed invention. If advantageous effects of the claimed invention over a cited invention can be clearly found in the description in the specification, etc., it is taken into consideration as facts to support to affirmatively infer the involvement of an inventive step.

When the reasoning can be made as a result of the above method, the claimed invention should be denied its inventive step. When the reasoning cannot be made, the claimed invention should not be denied its involvement of an inventive step.

(3) The method of finding a claimed invention and cited inventions, and comparing the two, set forth in "Method of Determining whether a Claimed Invention is Novel" (see 1.5.1 to 1.5.4) is also applied to the determination of the inventive step requirement.

2.5 Specific Examples of Reasoning

The reasoning can be made from various and extensive aspects. Examples are as

follows.
(1) Selection of an optimal material, workshop modification of design, mere juxtaposition of features
① Selection of an optimal material, workshop modification of design, etc.

Among exercises of ordinary creativity of a person skilled in the art are a selection of an optimal material from publicly known materials which achieve a specific object, an optimization of a numerical value range, a replacement with equivalents, and a workshop modification of design in applying specific technology. When the difference of a claimed invention in comparison falls only under these categories, it is usually considered that a person skilled in the art could have easily arrived at it, unless otherwise there is another ground for inferring inventive step.

[Example 1]

Sending or receiving with infrared waves of approximately 0.8-1.0 μm of infrared energy wavelength range is recognized as well-known art. Then, since there is no special circumstances which prevent to apply the technology to an apparatus for communicating their position of emergency vehicles, it is admitted that a person skilled in the art could have been easily arrived at the claimed invention by applying the technology for the communication of their positions of the cited invention 1.

(Reference: Hei 9 (Gyo Ke) 86, Example easy to apply unless there is no obstructive factors)

[Example 2]

Using a cloth or paper, not reinforced, as a foundation material holding plants is well-known and commonly used in making pressed flowers. Therefore, in the case where it is unnecessary to use a reinforced cloth or paper, like a bendable absorbent plate of the cited invention, it is mere a workshop modification of design or easily made to try to use a cloth or paper absorbing calcium chloride, not reinforced, not only for a person skilled in the art, but also for anyone who tries to make pressed flowers.

(Reference: Hei 6 (Gyo Ke) 82, 83)

② Mere juxtaposition of features

If matters defining an invention are not linked each other functionally or operationally and the invention is a combination of each matter (mere juxtaposition of features), the invention is deemed as a mere exercise of ordinary creativity of a person skilled in the art, unless otherwise there is another ground for inferring inventive step.

[Example 1]

The remarkable working-effect which 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: Sho 44 (Gyo Ke) 7)

(2) Probable cause or motivation
① Close relation of technical fields

An attempt to apply a technical means in a related technical field in order to solve a problem is a mere exercise of ordinary creativity of a person skilled in the art. A replaceable or add-able means in a related technical field, for example, can be a strong ground for the reasoning

that a person skilled in the art would have been led to a claimed invention.

[Example 1]

Although the closing-release system of the cited invention relates to a pachinko game machine not a slot machine, since both relate to amusement machines, and designed to stop after counting the given number, it is allowed that converting the said closing-release system of the pachinko game machine to the slot machine is easily arrived at regardless of the difference that the counted object is a pachinko-ball or medal. Whether the conversion is easy or not should be determined from the views of whether a person skilled in the art can easily conceive the idea of converting the technology to another field to which the relevant field of this technology is technically similar when the person skilled in the art develops the technology. Thus, it is admitted for a person skilled in the art to have easily conceived to convert the technology of the pachinko game machine to the field of the slot machine from the above-mentioned perspective.

(Reference: Hei 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 have been easily made by a person skilled in the art, unless an outstanding structure is utilized in terms of the application.

(Reference: Sho 55 (Gyo Ke) 177)

[Example 3]

Since the cited invention 1 is related to a printing ink-withdrawing device of a printing machine for corrugated papers and the cited invention 2 is related to a furnishing device for high viscosity liquid like printing ink, the both inventions apparently belong to the same technical field. In the said judgment of differences, a matter that should be applied from the cited invention 2 is merely an extremely basic technical means wherein 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. Consequently, the reason that specific technical problems (objectives) of both are not identical cannot be a ground to deny that the application of the technical means in the cited invention 2 to the cited invention 1 is very easy for a person skilled in the art.

(Reference: Hei 8 (Gyo Ke) 21)

② Close similarity of a problem to be solved

A close similarity of a problem to be solved can be a strong ground for the reasoning that a person skilled in the art would be led to a claimed invention by applying or combining cited inventions.

[Example 1]

The two inventions of cited documents 1 and 2 have the common problem to be solved in that a carrying sheet weakly attached with labels stops at a prescribed position. A person skilled in the art could have easily conceived the idea of applying the label feeding control means disclosed in the cited document 2 to the cited invention 1 for solving the technical problem.

(Reference: Hei 2 (Gyo Ke) 182)

[Example 2]

The thickness of a blade of a ripsaw usually varies according to its length, and the technical problem itself of a blade changeable ripsaw to use blades with changing their various thickness is easily predicted for a person skilled in the art who contacted the cited invention 1. Holding means in the cited inventions 4 to 7 can clearly hold various thickness of blades by their grasping force because of its elasticity. And the elements themselves are found to be manufactured on the basis of the technical idea of holding various thickness of blades in view of the structure itself. Therefore, the technical idea in the cited inventions 4 to 7 has a common technical problem with the concerned device on the point of using with changing blades with their various thickness. Thus, it should be said that a person skilled in the art can very easily arrived at conversion of the elements of the cited inventions 4 to 7 to the elements of the ripsaw blade in the cited invention 1.

(Reference Hei 7 (Gyo Ke) 5)

When a cited invention does not intend a similar problem to be solved to that of a claimed invention, further examination based on the state of the art should be conducted whether a problem to be solved is evident or whether it would have been easily conceived.

[Example 1]

The problem "to save costs and space" of the claimed invention concerned is a general problem not only of a mixer but of every device. In other words, it is nothing but an evident problem in the light of the structure of the device. Then, it is easily conceived to adopt above axial speed reducer and speed reducer with motors described in the cited invention 4 in order to save the occupied space of the mixer of the cited invention 1 according to the said evident problem, in consideration of both the said problem and the said properties of an axial speed reducer and a speed reducer with motors. Thus, it cannot be said that there is a special difficulty to do that.

(Reference Hei 4 (Gyo Ke) 142)

[Example 2]

A cited invention 4 clearly indicates that "light-weighted" is one of the important properties required for a golf club shaft, and suggests the needs or the advantages of lightning a golf club shaft in relation to drive of golf balls. Thus, it is allowed that a problem of the claimed device to lighten a golf club shaft is the matter which a person skilled in the art can predict as a matter of course.

(Reference Hei 7 (Gyo Ke) 152)

Even based on a problem to be solved of a cited invention which is different from that of a claimed invention, the inventive step of the claimed invention can be denied regardless of the difference in problems, if the reasoning can properly be made that a person skilled in the art could have easily arrived at the matters defining the claimed invention in a different way of thinking from the problem-solution of the claimed invention. This also applies to inventions wherein any problem to be solved cannot be identified, for example, inventions based on a discovery by trial and error.

[Example 1]

The claimed invention is 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, it is clear that dust on the face prevents the brake even for the carbon disk brake disclosed in the cited document 1 in the light of the general function of the brake. To provide a carbon disk brake with grooves to solve the problem suggested in the cited document 2 is a technical improvement which a person skilled in the art could have easily arrived at. Consequently, the same structure as the claimed invention in obtained, so that the claimed invention involves no inventive step.

(Reference: 201USPQ658)

If the applicant, however, provides sufficient arguments or evidence of a situation where the combination of the technologies of cited inventions 1 and 2 is obstructed (e.g., Since it is the common general knowledge that carbon disk brakes have no dust problem unlike metal disk brake, there would be no reason to conceive a carbon disk brake with grooves for the purpose of removing dust.), an inventive step of the claimed invention cannot be denied from the disclosure of the cited documents.

③ Close similarity of function, work or operation

If a close similarity in function, work or operation exists between a claimed invention and a cited invention or between cited inventions, there can be a well-founded reasoning that a person skilled in the art would have been led to the claimed invention by applying and combining the cited inventions.

[Example 1]

Both the cited invention 1 and the cited invention 2 are common in respect of washing cylinders of the printing machine by pressing a cloth on it. There is no difference between the cam structure of the cited invention 1 and the expansion structure of the cited invention 2, in respect of 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 the expansion structure of the cited invention 2 in place of the cam structure of the cited invention 1 as a pressure means.

(Reference Hei 8 (Gyo Ke) 262)

④ Suggestions shown in the contents of cited inventions

Suggestions shown in the contents of cited inventions relevant to a claimed invention can be a strong ground for the reasoning that a person skilled in the art would have been led to the claimed invention.

[Example 1]

The cited document discloses the condition of metal ions of which the electric potential is higher than that of iron as a cation suitable for the objective similar to the claimed invention of obtaining an aqueous cationic electrodepositing bath, in which chemical pretreatment is unnecessary, and concretely exemplifies seven types of metal ions.

Although lead ions are not exemplified, which are the specific compositions of the claimed invention, it is a publicly known fact that the electric potential of lead is higher than that of iron, so that it is allowed that the suggestion to use lead ions is disclosed in the cited document.

Thus, adding lead ions to the electrodepositing bath can be easily conceived by a person skilled in the art, insofar as there are no conditions such as the unsuitability of using lead to achieve the objective of the claimed invention.

(Reference: Sho 61 (Gyo Ke) 240)

[Example 2]

The 3-chlorocompound of the claimed invention merely differs in the substitution position in the chemical formula from the 2-chlorocompound and 4-chlorocompound in the cited document. And there is no notation in the cited document that the chemical compound should restrict the substitution position to the specific positions in order to be used as a color brightener, the 3-chlorocompound can be considered as being suggested in the cited document in the light of the above. Thus, the brightener can be easily predicted by a person skilled in the art.

(Reference: Sho 51 (Gyo Ke) 19)

(3) Advantageous effects

If an advantageous effect compared to cited inventions can clearly be identified from descriptions in the specification and the drawings, it is taken into consideration as a fact to support to affirmatively infer its inventive step. An advantageous effect compared to cited inventions means an effect which is advantageous in comparison with an effect of a cited invention, among the effects derived from the matters defining a claimed invention (i.e., among the characteristic effects).

① Advantageous effects to be considered

Reasoning is attempted by confirming and taking into consideration an advantageous effect, if any, of a claimed invention compared to cited inventions. It is noted that regardless of advantageous effects, inventive step may be properly denied by the uncontestable reasoning that a person skilled in the art could have easily arrived at a claimed invention.

[Example 1]

Even though the laminated material manufactured by the claimed invention has slightly superior property compared to the conventional material in strength and other factors, the result was achieved through selecting polypropylene resin in place of polyethylene resin according to a selection that a person skilled in the art would have easily conceived. Thus, it does not affect the determination with regard to the inventive step.

(Reference: Sho 37 (Gyo Na) 199)

[Example 2]

Adapting a silicon carbide as the material in the semiconductor region on the light-irradiated side of the semiconductor layers in the photoelectric conversion semiconductor device would have been easy from the viewpoint of minimizing light absorption in the said region. Thus, the finding that adopting a silicon carbide would have been easy is not affected even though the semiconductor region has the effect of preventing i-type property deterioration in the second semiconductor region.

(Reference: Sho 63 (Gyo Ke) 282)

However, when the advantageous effect compared to the cited invention so remarkable

that it cannot be foreseen by a person skilled in the art from the state of the art, there may be cases where its inventive step is not denied.

For example, even though a reasoning seems to be possible that a person skilled in the art could have easily arrived at a claimed invention because of the close similarity between the matters defining a cited invention and the ones defining a claimed invention or because of a combination of plural cited inventions, the inventive step should be positively inferred if a claimed invention has an advantageous effect, qualitatively different or qualitatively the same but quantitatively prominent in comparison with those of cited inventions, and if the advantageous effect cannot be foreseen by a person skilled in the art from the state of the art.

Particularly, in the case of an invention in a technical field in which an effect of a product is difficult to predict from its structure like a selection invention explained later, the advantageous effect compared to the cited invention is an important fact to positively infer its inventive step.

[Example 1]

It is possible to be allowed that producing motilin derivative like the claimed invention on the basis of the cited invention could be easily conceived by a person skilled in the art. However, even though the motilin of the claimed invention has an effect of the same quality as the motilin of the cited invention, it is appropriate to understand that the invention could be granted a patent as involving an inventive step if the motilin of the invention has an extremely excellent effect and if the effect is so remarkable that it cannot be foreseen by a person skilled in the art from the state of the art at the time of filing.

(Reference: Hei 8 (Gyo Ke) 136)

[Example 2]

The effect of the claimed invention is not derived until combining each of the constituent features, and is remarkable. Thus, the constituent features cannot have been easily conceived, although each of the constituent features are disclosed in each of the cited documents.

(Reference: Sho 44 (Gyo Ke) 107)

② Effects to be considered, asserted in a written argument, etc.

Where advantageous effects compared to cited inventions are described in a specification, or where advantageous effects are not explicitly described but can be inferred from the statements in the specification or the drawings by a person skilled in the art, the effects asserted or verified (e.g., experimental results) in a written argument, etc. should be considered. However, the effects asserted in the written argument, which are not described in the specification and that a person skilled in the art couldn’t deduce from the description of the specification or the drawings, should not be taken into consideration.

(Reference: Hei 9 (Gyo Ke) 198)

③ Method of handling selection invention

(i) Where an invention with a generic concept is expressed in a cited reference, an invention with more specific concept selected from the generic concept is called "selection invention," if it is novel over the generic invention and pertains to a technical field in which an effect of a product is difficult to understand from its structure. Where an invention is expressed as alternatives either in form or de facto in a cited reference, an invention selected from a group of inventions each of which is identified by supposing that each of the alternatives is a matter to define each of such

inventions is also called "selection invention," if it is novel over the alternatives and pertains to a technical field in which an effect of a product is difficult to understand from its structure. Thus, an invention can be a selection invention, if it is not an invention described in a publication (refer to 1.5.3(3)).

(ii) A selection invention involves an inventive step, when it generates an advantageous effect, not disclosed in a cited reference, qualitatively different or qualitatively the same but quantitatively prominent in comparison with that of an invention with a generic concept in a cited invention, neither of the effect being foreseen by a person skilled in the art from the state of the art.

(References: Sho 34 (Gyo Na) 13, Sho 51 (Gyo Ke) 19, Sho 53 (Gyo Ke) 20, Sho 60 (Gyo Ke) 51)

[Example 1]

It was publicly known that a chemical compound expressed with generic formula has the property of insecticide. While a specific compound is included in the generic formula, but was not specifically publicly known with respect to the property of insecticide, the claimed invention selected the specific compound as an effective component in the insecticide, on the basis of the discovery that the toxicity to humans of the specific compound is remarkably less than the other compounds in the generic formula. And, there is no other evidence which makes this expectation possible.

[Example 2]

Even though the claimed invention has a more excellent working effect in chroma than the cited invention, the difference of the effect is nothing more than successively transition from the working effect of the cited invention and could not be a remarkable effect that exceeds the prediction of a person skilled in the art. Thus, the claimed invention could not form a selection invention.

(Reference Hei 4 (Gyo Ke) 214)

④ Method of handling invention with numerical limitation

When a claimed invention is defined by specific numerical values, i.e., an invention with numerical limitation, the determination of inventive step comes under the following criteria.
(i) Optimizing by experiment a numerical range is normally considered as an exercise of ordinary creativity of a person skilled in the art, and hence its inventive step is denied in general.
(ii) However, a claimed invention involves an inventive step, when within a limited numerical range it has an advantageous effect, not disclosed in cited references, and qualitatively different or qualitatively the same but quantitatively prominent in comparison with that of a cited, neither of the effects also being foreseen by a person skilled in the art from the state of the art.

The remarkable effect should be confirmed in any part of a limited numerical range.

[Example]

The claimed invention is not found to have remarkable effect under reaction conditions within a range of at least from 350 to about 500°C, within the range of reaction temperature of 350 to 1,200°C which the claimed invention claims as its requirement.

(Reference: Sho 54 (Gyo Ke) 114)

In addition, a note to what is called the significance of critical range of numerical limitation is the following.

A remarkable difference in effect is required between inside and outside the limited numerical range where a claimed invention is on the continuation of a cited invention, that is, the two inventions differ only in the presence and lack of the numerical limitations, respectively, and have the closely similar problem to be solved.

[Example]

"Including more than 90% of P-section size within 100-14 mesh" in the claimed invention is extremely numerically approximate to 50-12 mesh of P-section size desirable in the cited invention and there are no particular differences in the working effect. Thus, if it can be said that a person skilled in the art could arrive at the limitation of P-section size on the basis of the cited invention without special creativity, the claimed invention should be deemed to be easily made on the basis of the cited invention and well-known art by a person skilled in the art.

(Reference Sho 63 (Gyo Ke) 107)

However, where two inventions have different problems to be solved and qualitatively different effects respectively, the significance of critical range of numerical limitation is not required even though the two inventions have the same matters defining the inventions except for the numerical limitation.

(Reference: Sho 59 (Gyo Ke) 180)

2.6 Handling of a Claim with Statements Defining a Product by its Function or Characteristic, etc.

(1) Where a claim includes statements defining a product by its function or characteristic, etc. and it falls under either the following ① or ②, there may be cases where it is difficult to compare the claimed invention with a cited invention. In the above circumstances, if the examiner has a reason to suspect that the claimed product would be prima facie similar to the product of the cited invention and that the claimed invention would prima facie involve no inventive step without making a strict comparison of the claimed product with the product of the cited invention, the examiner may send the notice of reasons for refusal under Article 29(2). Then an applicant may argue or clarify by putting forth a written argument or a certificate of experimental results, etc. against the notice of reasons for refusal. The reason for refusal is to be dissolved if the applicant's argument succeeds in changing the examiner's evaluation at least to the extent that it is unclear that the claimed product is prima facie similar to the product of the cited invention and that the claimed invention would prima facie involve no inventive step. Where the applicant's argument, which is, for example, abstract or general, does not change the examiner's evaluation to that extent, the examiner may make a decision of refusal under Article 29(2).

The above-mentioned handling, however, shall not be applied, if matters defining the cited invention fall under either the following ① or ②.

① a case where the function or characteristic, etc. is neither standard, commonly used by a person skilled in the art in the relevant technical field nor comprehensible of its relation to a commonly used function or characteristic, etc to a person skilled in the art if the function or characteristic is not commonly used; or

② a case where plural of functions or characteristics, etc. each of which is either standard,

commonly used by a person skilled in the art in the relevant technical field or comprehensible of its relation to a commonly used function or characteristic, etc. to a person skilled in the art if the function or characteristic is not commonly used, are combined in a claim so that the claim statements as a whole fall under ①.

(2) Examples where the examiner has a reason to prima facie suspect are the followings:

- (s)he reveals that a product of a cited invention deemed to be a ground for denying an inventive step for a claimed invention as a result of the converting the function or characteristic, etc. into a different definition with the same meaning or a different method for testing or measuring the same;
- where both the claimed invention and the cited invention are defined by identical or similar function or characteristic, etc. which are measured or evaluated under different measuring conditions or different evaluation methods and there is a certain relationship between them, there is a high probability that the function or characteristic, etc. defining the cited invention, if measured or evaluated under the same measuring conditions or evaluation method as the claimed invention, is similar to the function or characteristic, etc. defining the claimed invention so that it can be a ground for denying an inventive step of the claimed invention;
- a product of the claimed invention has been revealed identical in structure with a certain product after the filing and (s)he discovers the particular product could be made on the basis of inventions publicly known prior to the filing of the application;
- (s)he discovers a product of a cited invention which is identical with or similar to a mode for carrying out a claimed invention and which can be a ground for denying an inventive step of the claimed invention (for example, (s)he discovers a cited invention of which starting material is similar to one of the mode for carrying out the claimed invention and of which manufacturing process is identical with one of the mode for carrying out the claimed invention, or (s)he discovers a cited invention of which starting material is identical with one of the mode for carrying out the claimed invention and of which manufacturing process is similar to one of the mode for carrying out the claimed invention, etc.); and
- the matters defining a claimed invention are identical with those defining a cited invention except the ones defining the claimed invention by its function or characteristic, etc., or have no inventive step, and the cited invention has the objective or effect identical with or similar to the one which the claim statements of the claimed invention defining a product by its function or characteristic, etc., and the cited invention can be a ground for denying an inventive step of the claimed invention.

The examiner should follow the ordinary method when the requirement of inventive step can be examined without using this exceptional handling.

2.7 Handling of a Claim with Statements Defining a Product by Its Manufacturing Process

(1) If a claim is one with statements defining a product by its manufacturing process, there may be cases where it is difficult to determine what is the product per se structurally. In such circumstances, if the examiner has a reason to suspect that the claimed product would be prima facie identical with the product of the cited invention and that the claimed invention would prima facie involve no inventive step without making a strict comparison of the claimed product with the

product of the cited invention, the examiner may send the notice of reasons for refusal under Article 29(2) as mentioned in the above 2.6.

The above-mentioned handling, however, shall not be applied, if matters defining the cited invention include statements defining a product by its manufacturing process.

(2) Examples where the examiner has a reason to prima facie suspect are the followings:

- (s)he discovers a product of a cited invention of which starting material is similar to and of which manufacturing process is identical with those of the product of the claimed invention;
- (s)he discovers a product of a cited invention of which starting material is identical with and of which manufacturing process is similar to those of the product of the claimed invention;
- a product of the claimed invention has been revealed identical in structure with a certain product after the filing, and (s)he discovers the particular product could be made on the basis of inventions publicly known prior to the filing of the application; and
- (s)he discovers a cited invention which could deny an inventive step of what is identical with or similar to a mode for carrying out the claimed invention.

The examiner should follow the ordinary method when the requirement of inventive step can be examined without using this exceptional handling.

2.8 Notes to Determination of whether a Claimed Invention Involves an Inventive Step

(1) When there is such a description in a cited reference that precludes the reasoning the claimed invention is easily arrived at, the cited reference is not eligible for a cited invention. However, regardless of the description in a cited reference such as the difference of the problem to be solved, which prima facie precludes the reasoning, the eligibility for a cited invention shall be maintained, if the reasoning could be possible in terms of other aspects such as a close relation of technical fields or close similarity of function, work or operation, etc.

[Example 1]

While the claimed invention uses carbon dioxide which accompanies decomposition of magnesium carbonate, the disclosure of the cited document denies its use. Thus, It cannot be provided as a material for comparison.

(Reference: Sho 62 (Gyo Ke) 155)

[Example 2]

The cited invention 1 is an attachment device of a transformer with the aim of thinning down by devising the way of setup of the terminal pins. If the constitution of the cited invention 2 was applied to the terminal pins of the cited invention 1, it would be a modification of the terminal pins contrary to the aim of the contrivance which intends to thin down with an effort by devising the way of setup with establishing of a by-pass port. Thus, it is not allowed that a person skilled in the art could have easily arrived at the claimed invention in the light of the similarity that the both inventions can be attached to the plane.

(Reference Hei 8 (Gyo Ke) 91; an example of which the inventive step is admitted in the light of obstructing factors)

[Example 3]

When the technical idea, which is to carry out the two operations selectively by one robot by means of putting two holding means with respective functions into one robot indicated in the cited inventions 2 and 3, is applied to cited invention 1, the said auto-packing device could not be an obstacle.
(Reference Hei 10 (Gyo Ke) 131; an example where an existence of obstructing factors is denied)

[Example 4]
There is no fault in the judgment of appeal that is "generally speaking, it is commonly used that adding inert solvent properly and adjusting viscosity, etc. according to coating means or condition, etc. in this kind of coating compositions. In addition, since it could not be said that there are special technical obstructions to use an inert solvent in the cited invention, it can be said that a person skilled in the art could have easily arrived at using an inert solvent together in the cited invention."
(Reference Hei 9 (Gyo Ke) 111; an example where an existence of obstructing factors is denied)

(2) Since well-known or commonly used art is important material constituting the state of the art which can be a ground for a notice of reasons for refusal, well-known or commonly used art should be accompanied with an exemplary document insofar as possible except when it is so well-known that any evidential document seems unnecessary, regardless of whether it is used as a basis to find the cited invention or to find the knowledge (the state of the art including the common general knowledge) or the ability (the ability to use ordinary technical means for research and development or the ordinary creativity) of a person skilled in the art if an examiner refers to well-known or commonly used art.

(3) If an applicant admits in a specification that a technology presented as prior art is publicly known prior to the filing of the application, the technology may be properly cited as the state of the art at the time of filing, in determining inventive step of a claimed invention.

(4) If matters defining a claimed invention are expressed by alternatives either in form or de facto (Note), the examiner compares a cited invention with a group of inventions each of which is identified by supposing that each of the alternatives is a matter to define each of such inventions, and attempts to make a reasoning to deny inventive step of such inventions. If the reasoning can be properly made as this result, the claimed invention as a whole shall be deemed as lacking an inventive step.
This handling does not relate to the practice in deciding the appropriate time to stop prior art searches. See "Part Ⅸ: Procedure of Examination."

(Note) With regard to "alternatives in form or de facto", see 1.5.5 (Note1).

(5) Where an invention of a product per se involves an inventive step, inventions of a process of producing the product or of a use of the product involves an inventive step in principle.

(6) A commercial success or other similar facts can be taken into consideration in order to support to affirmatively infer an inventive step, insofar as the examiner finds that the fact is established by the features of a claimed invention, not by any other factors such as sales promotion technique and advertisement through an applicant's legitimate assertion or

substantiation.

[Example 1]

It should be said that the idea of using said remaining gas of oil factory that consists of composition like the claimed invention is absolutely different from the cited invention, and a person skilled in the art cannot easily arrive at that. Since the claimed invention apparently provides the economic effects that are provision of materials in extremely low cost and effective use of wastes by using remaining exhaust gas of oil factory, and the effect could be evaluated remarkable, the claimed invention is not allowed to be what a person skilled in the art could have easily made on the basis of the cited invention.

(Reference: Hei 1 (Gyo Ke) 180)

[Example 2]

Commercial success of a working goods of the claimed invention, as in the assertion of the plaintiff, does not affect the predictability of a working effect.

(Reference: Hei 8 (Gyo Ke) 193)

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

If the examiner has a conviction that a claimed invention is unpatentable under Article 29 (2), (s)he will send a notice of reasons for refusal to an applicant.

The applicant may argue or clarify by putting forth a written argument or a certificate of experimental results, etc. against the notice of reasons for refusal.

The reason for refusal is to be dissolved if the applicant’s argument succeeds in changing the examiner’s evaluation at least to the extent that it is unclear that the claimed invention is unpatentable under Article 29(2). Where the applicant’s argument does not change the examiner’s evaluation to that extent, the examiner may make a decision of refusal on the ground of the reason for refusal for lacking an inventive step.

3. Examples regarding the Method of Determining whether a Claimed Invention is Novel

3.1 A reason to suspect that the claimed inventions would be prima facie identical with a cited invention in case of Determining whether the Claimed Invention is Novel

(See Part II, Chapter 2, Novelty and Inventive Step, 1.5.5. Determining whether a Claimed Invention is Novel)

Where a claim includes statements defining a product by its function or characteristic, etc. and it falls under either the following (i) or (ii), there may be cases where it is difficult to compare of the claimed invention with a cited invention. In the above circumstances, if an examiner has a reason to suspect that the claimed invention would be prima facie identical with the product of the cited invention without making a strict comparison of the claimed invention with the product of the cited invention, the examiner may send the notice of reasons for refusal under Article 29(1) as far as there is no other differences. The examiner may wait for the argument or clarification from the applicant on the differences between these inventions.

The above-mentioned handling, however, shall not be applied, if matters defining the cited invention fall under either the following (i) or (ii).

(i) a case where the function or characteristic, etc. is neither standard, commonly used by a person skilled in the art in the relevant technical field nor comprehensible of its relation to a commonly used function or characteristic, etc. to a person skilled in the art if the function or characteristic, etc. is not commonly used, or
(ii) a case where plural of functions or characteristics, etc. each of which is either standard, commonly used by a person skilled in the art in the relevant technical field or comprehensible of its relation to a commonly used function or characteristic, etc. to a person skilled in the art if the function or characteristic, etc. is not commonly used, are combined in a claim so that the claim statements as a whole fall under (i).

As for claims including numerical scope or numerical formula (including an expression of inequality) for specifying a product by “operation, function, quality or characteristics” described above, the following cases can be considered as examples of the cases in which examiners should have a reason to suspect that the claimed inventions would be prima facie identical with cited inventions.

- (s)he reveals that a prior art product is identical with the product of the claimed invention as a result of converting the function or characteristic, etc. into a different definition with the same meaning or a different method for testing or measuring the same;
- where a claimed invention and a cited invention are defined by identical or similar function or characteristic, etc. which are measured or evaluated under different measuring conditions or different evaluation methods, and there is a certain relationship between them, and there is a high probability that the function or characteristic, etc. defining the cited invention, if measured or evaluated under the same measuring conditions or evaluation method as the claimed invention, is included in the function or characteristic, etc. defining the claimed invention;
- a product of the claimed invention has been revealed identical in structure with a certain

product after the filing and (s)he discovers the particular product is publicly known prior to the filing;

- (s)he discovers a prior art product which is identical with or similar to a mode for carrying out the claimed invention (for example, (s)he discovers a prior art product of which starting material is similar to and of which manufacturing process is identical with those of the mode for carrying out the claimed invention, or (s)he discovers a prior art product of which starting material is identical with and of which manufacturing process is similar to those of the mode for carrying out the claimed invention, etc.); and
- the claimed invention and a cited invention have common matters defining the inventions other than those defining a product by its function or characteristic, etc., and the cited invention has the same objective or effect as the matters defining a product by its function or characteristic, etc. have, and there is a high probability that the function or characteristic, etc. defining the cited invention is included in the function or characteristic, etc. defining the claimed invention

3.2 Notice of Reasons for Refusal when the examiner has a reason to suspect that the claimed inventions would be prima facie identical with cited inventions

(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))

If the examiner has a reason to suspect that the claimed invention would be prima facie identical with the cited invention and it is unpatentable under Article 29 (1), in the notice of reasons for refusal to an applicant, (s)he should point out the bases for the reason and present his/her views on what kind of opposing arguments and vindications are effective if necessary.

For example, in case if it is necessary to show the quantitative comparison regarding the “operation, function, quality or characteristics” of the product in order to make a rational opposing arguments and vindications that the claimed product and the cited product are not identical, (s)he should point out in a notice of reasons for refusal that it is necessary to clarify that the claimed products and the products cited in the notice of reasons for refusal are not identical by presenting the certificate of experimental results.

The applicant may argue or clarify by putting forth a written argument or a certificate of experimental results, etc. against the notice of reasons for refusal. The reason for refusal is to be dissolved if the applicant’s argument succeeds in changing the examiner’s evaluation at least to the extent that it is unclear that the claimed invention is unpatentable under Article 29(1). Where the applicant’s argument does not change the examiner’s evaluation to that extent, the examiner may render a decision of refusal on the ground of lacking novelty.

3.3 Notice of Reasons for Refusal based on the certificate of experimental results, etc. submitted by information offering

Generally, it may be necessary to show experiments in many cases in order to explain that the claimed invention using numerical scope or numerical formula (including an expression of inequality) to specify a product by “operation, function, quality or characteristics” is identical with the invention described in a publication which is distributed prior to the application.

It is possible, in the light of the necessity described above, to submit the certificate of experimental results, etc. by the information offering system as a “document” to explain that the

claimed invention is identical with the invention described in a publication distributed prior to the application. At that time, the certificate of experimental results, etc. in which required matters are described, so that the matters to be certified, contents of experiment and results of experiment can be confirmed obviously, shall be submitted.

In the case that the certificate of experimental results, etc., submitted by the information offering is cited in the notice of reasons for refusal, the submission date and the names of persons in charge of experiment concerning the certificate of experimental results, etc. to be cited in the notice concerned shall be described to specify the cited evidence.

The certificate of experimental results, etc. submitted by the information offering can be offered for public inspection.

Shown as follows are examples in which reasons for refusal should be noticed based on a reason to suspect that the claimed inventions would be prima facie identical with cited inventions and examples of the certificate of experimental results.

Example 1

Type: 1

Description in the application concerned	Cited document
【Claim 1】 A polyvinyl chloride resin particle having an average particle diameter R of 150 to 190μm, and a porosity A (cc/g) satisfying the following expression; 0.15 logR－0.11＜A＜0.34	【Title of the invention】 Granulation method for polyvinyl chloride resin 【Example】 ……the 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 ≒ 0.228. Also, as the specific gravity (d) of the polyvinyl chloride resin is normally from 1.16 to 1.55, the porosity A (cc/g) of the polyvinyl chloride resin whose porosity is 27% can be determined by “void per unit volume” / “weight per unit volume”, that is to say, 0.27/(1 - 0.27) d and it can be “0.239 ≦ A ≦ 0.319”.

Accordingly, as the polyvinyl chloride resin described in the cited document satisfies the claimed expression, it can be recognized that there would be the reason to doubt that the polyvinyl chloride resin described in the cited document is prima facie identical with the claimed one.

Example 2

Type: 2

Description in the application concerned	Cited document
【Claim 1】 A biaxially oriented polyester film, (A) which contains (a) 0.1 to 0.6% by weight of first inorganic particles having an average particle diameter of 0.03 to 0.2μm, and (b) 0.002 to 0.03% by weight of second inorganic particles having an average particle diameter of 0.3 to 1.2μm, this average particle diameter being greater than the average particle diameter of the first inorganic particles by at least 0.2μm, wherein; (B) the heat shrinkage factor in heat treatment at 90℃ for 1 hour under no load is not more than 0.8%, and (C) the thickness is 6.0 to 10.0μm.	【Title of the invention】 A biaxially oriented polyester film
【Detailed description of the invention】 ……. In the film of the present invention, the heat shrinkage factor in heat treatment at 90℃ under no load for 1 hour 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 having such a heat shrinkage factor causes a thermal irreversible change, so it is not preferable. ……	【Example】 Polyethylene-2,6-naphthalate containing 0.5% by weight 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℃, stretched widthwise at a stretch ratio 4.0 times at 130℃, and heat-treated for 6 seconds at 200℃ to give a film having a thickness of 8μm. The heat shrinkage factor of the film in heat treatment at 150℃ for 1 hour under no load was 1.4%.

［Explanation］

As the heating temperature for measuring the heat shrinkage factor is different between the claimed film and the film described in the cited document, it is impossible to compare them with each other in the heat shrinkage factor.

However, the lower the measured temperature, the smaller the thermal shrinkage factor in case of the polyester film generally required the size stability. Therefore, when the thermal shrinkage factor of the polyester film described in the cited document is measured at 90℃, it is highly probable that the thermal shrinkage factor would be included in the scope of claimed invention.

Consequently, it can be recognized that there would be the reason to doubt that the claimed film is prima facie identical with that described in the cited document.

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 0.12μm or less in average height formed in the rate of 1.6×10^4 - 1.6×10^5 pieces/mm^2 on the surface of layer A and with a 0.002 - 0.02μm of SRa which means the three-dimensional center surface average roughness.

【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 three-dimensional center surface average roughness SRa (μm) is obtained from the following expression. A portion of area S_M is cut out 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. A value obtained from the expression is expressed with μm unit.

$$SRa = 1/S_M \int_0^{LX}\int_0^{LY} | f(X,Y) | dxdy$$

(wherein $LX \cdot LY = S_M$)

……

Cited document

【Title of the invention】

A laminate film

【Detailed description of the invention】

…… The center line surface roughness Ra 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).

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

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

【Example】

The polyethylene containing the talc particles in 40 weight % with 0.05μm in average particle diameter and the polyethylene terephthalate containing no particle were co-extruded under the condition of ……, drawn and heat treated to obtain a biaxially oriented film of 9.8μm. The micro-protrusions of 0.1μm or less were formed at the rate of 55,000 pieces/mm^2 on the surface of the polyethylene layer and the center line surface roughness Ra was 0.009μm.

[Explanation]

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 application concerned and the cited document that the film surface roughness has directionality or specific distribution, and if it is 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 become almost the same even if considering the difference in concrete measurement conditions.

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 probable that the cited invention would be included in the scope of the claimed invention.

Consequently, it can be recognized that there would be the reason to doubt that the claimed film is prima facie identical with that described in the cited document.

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 - 1μm, whose area ratio for a circumscribed circle defined in the following expression is over 90%, and the standard deviation of the particle diameter is 1.1 - 1.2,

wherein the area ratio for a circumscribed circle

$$= \frac{\text{projected area of particle}}{\text{area of a circumscribed circle for a particle}} \times 100$$

[Detailed description of the invention]

…… The particle shape of the silica is important. A sheet whose slipperiness and abrasion resistance is excellent would be obtained by using particles whose shape 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 which constitutes filler for plastic shapes spherical in individual extremely close to a sphericity. It would be evaluated by a particle diameter ratio b/a of a major axis (a) and a minor axis (b). The particle diameter ratio would be measured by the electron microscope pictures.

[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 diameter (μm)	Particle diameter ratio b/a	Standard deviation
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 with each other 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 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 described in the cited document, with the particle diameter ratio of 0.9, would be measured by the area ratio described in the claim, it is highly probable that the area ratio described in the cited document would be included in the scope of the claimed invention.

Consequently, it can be recognized that there would be the reason to doubt that the claimed silica fine particle is prima facie identical with that described in the cited document.

Example 5

Type: 3

Description in the application concerned

[Claim 1]

A rubber composition for tire 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 a CTAB surface area of 70 - 123m^2/g and a DBP absorption amount of 110 - 155ml/100g.

[Detailed description of the invention]

…….A carbon black with extremely less surface pores is used in the claimed rubber composition for tire to improve the abrasion resistance. ……

[Example]

In Examples, the following carbon black is used.

No	1	2	3
CTAB(m^2/g)	72	96	105
DBP(ml/100g)	143	146	138

*CTAB surface area（CTAB : cetyltrimethylam monium bromide）ASTM D3765-80

*DBP（dibutyl phthalate） JIS K6221

Cited document

[Title of the invention]

Carbon black with high abrasion resistance

[Detailed description of the invention]

…….The claimed carbon black is excellent in abrasion resistance because of reducing the number of surface pores. ……

[Example]

The nitrogen absorption specific surface area (N_2SA) and DBP absorption amount of the produced carbon black are shown as follows.

No	1	2	3
N_2SA (m^2/g)	99	125	138
DBP(ml/100g)	143	149	121

＊N_2SA ASTM D3037-88

＊DBP JIS K6221

A rubber composition was produced from 100 weight parts of diene synthetic rubber and 45 weight parts 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….

[Explanation]

The value of the CTAB surface area of the carbon black is not described in the cited document.

Usually, the CTAB surface area indicates the effective specific surface area not including the surface pore part on the carbon black. On the other hand, the nitrogen absorption specific surface area indicates the total specific surface area including the surface pore part on the carbon black. If the carbon black has an excellent abrasion resistance and less surface pores, the values of CTAB surface area and nitrogen absorption specific surface area would be considered to indicate the almost identical level each other.

Accordingly, it is highly probable that when the CTAB surface area of the carbon black described in the cited document is measured, it would be included in the scope of claimed invention.

Consequently, it can be recognized that there would be the reason to doubt that the claimed rubber composition is prima facie identical with the rubber composition described in the cited document.

Example 6

Type: 4

Description in the application concerned	Cited document
[Claim 1] The ethylene-propylene copolymer wherein polymerization degree is 100 - 300, whose ethylene content is 20 – 40 weight% 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℃ is extruded in ropy 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 tension detecting pulley to be positioned below a nozzle for winding.] [Detailed description of the invention] In order to obtain the ethylene-propylene copolymer whose drawdown property is 20 - 50m/min or less, usually, the ethylene-propylene copolymer with 100 - 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℃ for about 5 - 7 minutes keeping stirring after being added 5 - 10mmol/kg of the peroxide.	[Title of the invention] Ethylene-propylene copolymer [Example] The ethylene-propylene copolymer is obtained by adding the 0.8mmol peroxy carbonate to 100 g of the ethylene-propylene copolymer (with 200 of polymerization degree and 30 weight% of ethylene content) in a reactor, reacting them at 90℃ for 10 minutes keeping stirring 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, it can be recognized that there would be the reason to doubt that the claimed ethylene-propylene copolymer is prima facie identical with the ethylene-propylene copolymer described in the cited document.

Example 7

Type: 5

Description in the application concerned	Cited document
[Claim 1] A polyester film for magnetic recording medium including inactive particles in 3 - 15 weight % and whose thickness is 20μm 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; $Ns \geqq 1.53na - 2.33$	[Title of the invention] Polyester film for magnetic recording medium
[Detailed description of the invention] The film satisfying the relation of $Ns \geqq 1.53na - 2.33$ has a high Young's modulus in vertical direction and horizontal direction as over 750kg/mm^2, and when it satisfied the relation above it has an excellent electromagnetic conversion property, over +2.0dB, using as a magnetic tape…	[Example] The un-stretched film of 180μm was obtained by the process that polyethylene terephthalate containing 10 weight % of titanium oxide whose average particle diameter is 0.2μm was melted and extruded at 300℃, and then rapid solidification. After the un-stretched film was drawn 3.7-fold at vertical direction and horizontal direction at the temperature of 150℃, it was treated with heat at 210℃ for 10 seconds, and then, an stretched film of 6.5μm in thickness was obtained. The Young's modulus of this film was measured as 870kg/mm^2 in vertical direction and 900kg/mm^2 in horizontal direction, and the electromagnetic conversion property of this film was measured as 3.0dB.
[Example 1] Measuring the Young's modulus of the polyethylene terephthalate film obtained in this way, it was read as 850kg/mm^2 in vertical direction and 750kg/mm^2 in horizontal direction, and the electromagnetic conversion property was read as +2.0dB.	
[Example 2] Measuring the Young's modulus of the polyethylene-2,6-naphthalate film obtained in this way, it was read as 750kg/mm^2 in vertical direction and 870kg/mm^2 in horizontal direction, and the electromagnetic conversion property was read as +2.2dB.	

[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 $Ns \geqq 1.53na - 2.33$. However, the description in the application concerned described that the Young's modulus in vertical and horizontal direction and the electromagnetic conversion property would be improved as the effect by 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, it can be recognized that there would be the reason to doubt that the claimed film is prima facie identical with 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.

Example 8

Type: 5

Description in the application concerned

[Claim 1]

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

$1 \leqq h < 100$: 1,000 - 20,000 pieces/mm^2

$100 \leqq h$: 0 - 50 pieces/mm^2

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

[Detailed description of the invention]

… The film that satisfies the conditions of $1 \leqq h < 100$: 1,000 - 20,000 pieces/mm^2, $100 \leqq h$: 0 - 50 pieces/ mm^2 is good in handling as the base film and excellent in the cursoriality 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 cursoliality when it is used as a magnetic tape….

[Example]

	Ex. 1	Ex. 2	Comp. Ex. 1	Comp. Ex. 2
Number of surface protrusion $1 \leqq h < 100$: $100 \leqq h$	15,325 10	3,480 14	22,389 120	21,309 21
Ra (nm)	8	6	29	12
Running Durability	good	good	bad	Not good

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 of the claimed invention which satisfies the surface roughness condition is good in handling the film and the cursoliality when it is used as a magnetic tape. And, even if the range of surface roughness meets the range of the claimed invention, it is desirable not to contain a rough and large protrusion because the remarkably high protrusion may give negative effect on the cursoliality when it is used as a magnetic tape,. ……

[Example]

…was drawn and heat treated under the conditions of ……to produce a polyethylene-2, 6-naphthalate film.

The center line surface roughness Ra of this film was 5nm. The cursoriality of this film using as a magnetic tape was more excellent than that of the conventional film, and the winding up in manufacturing of the tape was also good. ……

[Explanation]

It is not described in the cited document that the relation between the height and the number of the protrusion satisfies the conditions of $1 \leqq h < 100$: 1,000 - 20,000 pieces/mm^2 , $100 \leqq h$: 0 - 50 pieces/ mm^2. According to the detailed description of the invention in the application concerned, the effect that is obtained by specifying the conditions of relation between the height and the number of the protrusion described above is identical with the effect obtained by specifying the range of surface roughness (improvement in film handing performance and cursoliality). In addition, it only describes the comparative examples of the inventions that is not satisfied the 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 relation between the height and the number of the protrusion described above cannot be confirmed.

On the other hand, the problems to improve the cursoliality and the solutions for controlling both the surface roughness and the rough/large protrusion was recognized in the cited document, because it is also described in the cited document that, even if the condition of the scope of surface roughness is satisfied, a remarkably high protrusion may give negative effect on thecursoliality.

The film described in the cited document also achieves the effects concerning cursoliality 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 film described in the cited document.

Consequently, it can be recognized that there would be the reason to doubt that the claimed film is prima facie identical with the film described in the cited document.

An example of certificate of experimental results

(A case in which it is certified that the product described in a publication is identical with the product in the claimed invention)

Certificate of Experimental Results

(month)/(day)/(year)
…Laboratory,…Co., Ltd.
Name: ZZ ZZ seal

1. Experiment day
2. Experiment place
3. Person in charge of experiment
   …Laboratory, …Co., Ltd.
   Name: OO OO

4. Purpose of experiment

It should be described as follows, for example:

To confirm that the film in the claimed invention is identical with the film described in example 1 of above described official gazette, by manufacturing the polyethylene film disclosed in example 1 in JP, OO-OOOOOO, A, measuring the XX and ZZ of the film obtained.

5. Contents of experiment

The manufacturing 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 a publication. (There may be a case where only the description “A film was manufactured in accordance with the example 1 in JP, OO-OOOOOO, A.” is insufficient.)

When new conditions are established for the manufacturing concerned, or when it is impossible to carry out the experiment under the same conditions as those described in a publication, the reasons shall also be described.

Next, the physical properties described in the publication shall be measured and described in order to confirm that the product described in the publication can be reproduced.

6. Result of experiment

All physical properties required shall be measured and described in order to confirm that the product described in the publication is identical with the product in the claimed invention. When the physical properties of the product concerned are measured, the conditions concerned shall be shown concretely, so that it becomes clear that they are the same as the conditions for measurement that are used in the claimed invention. (There may be a case where only the description “The XX and ZZ are measured under the similar conditions to those in the claimed invention.” is insufficient.) When the new conditions are established for the measurement concerned or when it is impossible to carry out the experiment under the same conditions as described in the claimed invention, the reasons shall also be described.