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

1. Cases pertinent to Description Requirements (Article 36 of the Patent Act)

In order to make clear the examination practice in relation to the description requirements, the outline of the determination thereon, as well as the measures of the applicant is explained below based on specific examples.

(Points to Note)

These cases have been prepared with an aim to describe the examination practice. Therefore, it should be noted that modification such as clarification is added to the claims etc. in the above cases to ease explanation.

List of Cases

(In the list, "○" means that the case concerned satisfies the requirement in question. In contrast, "×" means that the case concerned does not satisfies the requirement in question. "○/×" means that the case concerned satisfies the requirement in question and the case concerned does not satisfy the requirement in question.)

Case No.	Title of Invention	Support Requirement	Clarity Requirement	Enablement Requirement	Ministerial Ordinance Requirement	Remarks
Case 1	Hybrid car	×	×	×		Functions or properties, etc.
Case 2	Compounds activating R receptors	×	×	×		Functions or properties, etc.
Case 3	DNA	×	×	×		Functions or properties, etc.
Case 4	Anti-allergic agent	○/×	○	○/×		Functions or properties, etc.
Case 5	Compound	○/×		○/×		Markush
Case 6	Peptidase Z inhibitor	×		×		Markush
Case 7	Olefin polymerization catalyst	×		×		Markush

Case 8	Antiemetic agent	×		×		Pharmacological test result
Case 9	Vaccine	×		×		Pharmacological test result
Case 10	Arterial sclerosis preventive	○		○		Pharmacological test result
Case 11	Anti-inflammatory drug	×		○		Pharmacological test result
Case 12	Manufacturing method of solid state device	○/×				Parameter
Case 13	Driving level determination apparatus	×				Parameter
Case 14	Heater controller	×				Parameter
Case 15	Stretched polypropylene film	○	○		○	Parameter
Case 16	Oriented wrap films	○/×		○/×	○/×	Parameter
Case 17	Pencil lead			×		Parameter
Case 18	Zoom lens	×				Invention of lens system
Case 19	In-vehicle head up display	○				
Case 20	Colored photosensitive composition	○				
Case 21	Composition for emission layer of organic EL element	○				
Case 22	Image forming apparatus	○				
Case 23	Catalysts consisting of high silica zeolite	○				
Case 24	Porous catalysts	○				
Case 25	Radar apparatus	○/×		○/×		

Case 26	Radar	○/×		○/×		
Case 27	Display device	×				
Case 28	Method for installing sewage treatment apparatus	○				
Case 29	Machining center	○/×	○/×			
Case 30	Cellular-phone-handset desk-top holder	○/×				
Case 31	Disposable diaper	○/×				
Case 32	Musical sound data player	×				
Case 33	Information system	×	×			
Case 34	Image encode chip	○/×	○/×			
Case 35	Camera-equipped communication terminal	×				
Case 36	Authentication apparatus			×		
Case 37	Microorganisms			×		Deposit
Case 38	Wash-free rice		○/×			Specification of product by method for producing
Case 39	Light source device		○			Expression that can make a scope obscure
Case 40	Contrast microscope		○			Expression that can make a scope obscure
Case 41	Contents delivery system		○			Sub-combination

Case 42	Network system		○/×			Sub-combination
Case 43	Monitoring system		○			Sub-combination
Case 44	Drink bottle		×			
Case 45	Supplement for lowering blood sugar level	×		×		Use invention of foods
Case 46	Sugar content estimation system			×		AI-related technology
Case 47	Business plan design apparatus			○		AI-related technology
Case 48	Autonomous vehicle			○		AI-related technology
Case 49	Body weight estimation system	○/×		○/×		AI-related technology
Case 50	Method for estimating an allergy incidence rate of a test substance	○/×		○/×		AI-related technology
Case 51	Anaerobic adhesive composition	×		×		AI-related technology
Case 52	Fluorescent compound	○/×		○/×		AI-related technology
Case 53	Method for generating images for training data	○/×				AI-related technology
Case 54	Machine learning apparatus for screw clamping quality	○/×				AI-related technology
Case 55	Trained model to output content of work to be performed in response to malfunction		○/×			AI-related technology

[Case 1]

Title of Invention
Hybrid car

What is claimed is:
[Claim 1]
A hybrid car of which energy efficiency during running on electricity is a-b%, as measured by X test method.

Overview of the description
The purpose of the present invention is to provide a hybrid car which achieves high energy efficiency during running on electricity.

Examples show a hybrid car equipped with a control means to perform Y control for a belt-type continuously-variable transmission, and it is indicated that energy efficiency of this hybrid car during running on electricity is a-b%, as measured by X test method. A belt-type continuously-variable transmission is a limitative concept subordinate to the generic concept of continuously-variable transmission. The detailed explanation of the invention further states that a control means to perform Y control for a continuously-variable transmission other than the belt-type one can be adopted.

The detailed explanation of the invention also provides for the definition of the X test method.

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)

Claim 1 describes a hybrid car defined only by the high energy efficiency of a-b%, whereas the detailed explanation of the invention only describes, as specific examples, a hybrid car equipped with a control means to perform Y control for a belt-type continuously-variable transmission, as a hybrid car that achieves high energy efficiency of a-b%. In light of the common general knowledge as of the filing, it is understood that the similar high energy efficiency can also be achieved by adopting a control means to perform Y control for a continuously-variable transmission other than the belt-type one, and therefore, the content disclosed in the detailed explanation of the invention can be expanded or generalized to a hybrid car equipped with a control means to perform Y control for any type of continuously-variable transmission. However, claim 1 defines a hybrid car only by said energy efficiency, while defining nothing about the control means. In the technical field of the hybrid car, it is common general knowledge as of the filing that the energy efficiency during running on electricity is normally about X%, far lower than a%, and it is difficult to realize higher energy efficiency such as a-b%. No ground can be found for expanding or generalizing the content disclosed in the detailed explanation of the invention to the scope of the invention of claim

1, which is defined only by said energy efficiency.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

Furthermore, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, it is impossible for a person skilled in the art to understand cases other than the case of adopting a control means to perform Y control for continuously-variable transmission, which is included in the scope of claim 1.

Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1.

- Article 36(6)(ii) (Clarity Requirement)

In the technical field of the hybrid car, it is common general knowledge as of the filing that the energy efficiency during running on electricity is normally about X%, far lower than a%, and it is difficult to realize a higher energy efficiency such as a-b%, and it is also difficult to understand the specific hybrid car defined only by such high energy efficiency. Accordingly, in light of such common general knowledge, it is evident that a "hybrid car" defined only by said energy efficiency, with no means to realize it being defined, is not sufficiently specified from a technical perspective, and the invention cannot be clearly identified from the statement of claim 1 even by taking into account the statements of the description and drawings.

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by amending claim 1 so as to ensure that means to realize said energy efficiency are defined, that the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the invention of claim 1, and that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1.

The applicant does not necessarily have to limit the scope of claim to a hybrid car equipped with a control means to perform Y control for a belt-type continuously-variable transmission, which is specifically disclosed in the detailed explanation of the invention. For example, claim 1 could be amended as follows:

[Claim 1]

A hybrid car equipped with a control means to perform Y control for a belt-type continuously-variable transmission, of which energy efficiency during running on electricity is a-b%, as measured by X test method.

[Case 2]

Title of Invention

Compounds activating R receptors

What is claimed is:

[Claim 1]

A compound having activity of activating R receptor.

[Claim 2]

An anti-obesity agent containing, as an active ingredient, the compound having activity of activating R receptor according to claim 1.

Overview of the description

R receptor was found by the applicant, and a method of screening compounds having activity of activating R receptors was also found by the applicant.

It is stated in the description that the series of steps include a screening step which is conducted to detect the presence of the activity of activating R receptor, and the detection method (a method of detecting the compound having activity of activating R receptor on the basis of the degree of activation) is specially defined.

In examples, chemical structures of new compounds X, Y, and Z having activity of activating R receptor and a method of producing the same are stated, and it was confirmed that these compounds have the activity of activating R receptor.

Further, a pharmacological mechanism in which the activation of the R receptor suppresses obesity is theoretically stated in the description, and such a pharmacological effect of the compound X is stated as well as specific methods and results of pharmacological test.

(However, with regard to compounds having activity of activating R receptor other than compounds X, Y, and Z, there is no statement of the chemical structures and production methods.)

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirements), Article 36(4)(i) (Enablement Requirements) : Claims 1 and 2

The compounds having activity of activating R receptor are comprehensively stated in claim 1, while, as specific examples, merely the chemical structures of new compounds X, Y and Z having activity of activating R receptor and a method of producing the same are stated in the description of the invention, and with regard to compounds having activity of activating R receptor other than compounds X, Y and Z, there is no statement of the chemical structures and production methods. It was the common general knowledge at the time of filing that it is difficult to understand the specific compound that can activate the new

receptor, and no ground can be found for expanding or generalizing the details provided in the description of the invention to the scope of the invention claimed in claim 1 which is defined only by the activity of activating R receptor.

Therefore, the invention claimed in claim 1 exceeds the extent of disclosure in the description of the invention.

Further, taking into consideration the statement in the description as well as the common general knowledge at the time of filing, as stated above, it is difficult to understand the specific compound having activity of activating R receptor other than compounds X, Y and Z. Thus, it is determined to be necessary to synthesize, screen and examine the activities of a myriad of compounds by trial and error to enable the invention claimed in claim 1, which is beyond the extent to which a person skilled in the art should be reasonably expected.

Therefore, the description of the invention is not clearly and sufficiently stated so as to enable a person skilled in the art to carry out the invention claimed in claim 1.

The same applies to the invention claimed in claim 2 which is defined as containing the compound according to claim 1 as an active ingredient.

- Article 36(6)(ii) (Clarity Requirements) : Claims 1 and 2

It was the common general knowledge at the time of filing that it is difficult to understand the specific compound defined only by the function of activating the new receptor. Therefore, taking into consideration said common general knowledge, it is obvious that the “compound” in which its chemical structure, etc. required for having said function are not specified and defined only by said function is not sufficiently specified from a technical perspective, and the invention cannot be clearly understood based on the statement in claim 1 even when the statements in the description and drawings are considered.

The same applies to the invention claimed in claim 2 which is defined as containing the compound according to claim 1 as an active ingredient.

[Measures of the applicant]

In a case where the specific chemical structure of the compound is defined by amending the claim 1, if it is determined that the details provided in the description of the invention can be expanded or generalized to the scope of the claimed inventions, and that the description of the invention is clearly and sufficiently stated so as to enable a person skilled in the art to carry out the claimed inventions, all of the reasons for refusal would be overcome.

For example, if the claims are amended as follows, all of the reasons for refusal will be overcome.

[Claim 1]

A compound X, Y or Z having activity of activating R receptor.

[Claim 2]

An anti-obesity agent containing, as an active ingredient, the compound X, Y or Z having activity of activating R receptor according to claim 1.

(Supplementary Explanation)

(1) Regarding a case where the claimed inventions comply with Clarity Requirement even if an active ingredient is defined only by a function or characteristics, etc., see Case 4.

(2) Even in a case where the invention claimed in claim 1 contains the expression such as “R receptor agonist” or “R receptor antagonist” at the end of the Claim, it shall be treated as an invention relating to “compounds activating R receptor” or “compounds inhibiting R receptor” respectively, excluding a case where each of these terms clearly means “agents activating R receptor” or “agents inhibiting R receptor”.

(3) In a case where the compounds X, Y, and Z have quite different basic skeletons from each other, the claimed inventions may be determined not to fulfill the requirement of Article 37 and Clarity Requirement.

[Case 3]

Title of Invention
DNA

What is claimed is:
[Claim 1]
A DNA encoding a protein having activity A.

Overview of the description

As a DNA encoding a protein having activity A, only one nucleotide sequence of "atgc……" is stated, and in examples, the experimental result that a protein encoded by the DNA had activity A is stated.

It is stated that a DNA whose nucleotide sequence is different from said sequence of "atgc……" and which encodes a protein having activity A can be obtained by the point mutation method or by the hybridization method under stringent conditions, on the basis of said sequence (however, there is no example of such DNA actually obtained).

Further, it is stated that the "stringent conditions" are "highly stringent conditions" well-known in the art.

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)

While the "DNA encoding a protein having activity A" is stated in claim 1, only DNA consisting of one specific nucleotide sequence is stated as a specific example in the description of the invention.　It was the common general knowledge at the time of filing that it is difficult to obtain DNA whose sequence is significantly different from, or whose sequence has low sequence identity to, said specific nucleotide sequence, and which encodes a protein having the same activity.　No ground can be found for expanding or generalizing the details provided in the description of the invention to the extent of disclosure of the invention claimed in claim 1, which includes a DNA whose sequence has low sequence identity to said specific nucleotide sequence and which encodes a protein having activity A.

Thus, the invention claimed in claim 1 exceeds the scope stated in the description of the invention.

Further, taking into consideration of the statement in the description of the invention as well as the aforementioned common general knowledge at the time of filing, it is determined to be necessary to make trials and errors and/or complicated and sophisticated experimentation to obtain such DNA whose nucleotide sequence has low sequence identity to said specific nucleotide sequence and which encodes a protein having the same activity A beyond the extent to which a person skilled in the art should be reasonably expected.

Therefore, the description of the invention is not clearly and sufficiently stated so as

to enable a person skilled in the art to carry out the invention claimed in claim 1.

- Article 36(6)(ii) (Clarity Requirement)

Although claim 1 defines the DNA only by its function of "encoding a protein having activity A", it was also the common general knowledge at the time of filing that it is difficult to understand the specific protein or DNA encoding such protein defined only by its activity. Therefore, in light of said common general knowledge, it is obvious that DNA whose nucleotide sequence is not specified and which is defined only by such function is not sufficiently specified from a technical perspective, and the invention cannot be clearly understood based on the statement of claim 1 even when the statements in the description and drawing are considered.

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by amending claim 1 so that it will not include DNA whose nucleotide sequence has low sequence identity to the nucleotide sequence of the DNA specifically stated in the description of the invention.

For example, claim 1 could be amended as follows.

A DNA that is (a) or (b) below.

(a) a DNA whose nucleotide sequence is represented by atgc……,

(b) a DNA which hybridizes under stringent conditions to DNA whose nucleotide sequence is complementary to that of (a), and which encodes a protein having activity A

(Note 1)

In the description of the invention, only DNA consisting of a nucleotide sequence of "atgc……" is stated as the "DNA encoding a protein having activity A".

Taking into consideration of the common general knowledge at the time of filing, the general approach for obtaining DNA whose sequence is different from said nucleotide sequence represented by "atgc……" and which "encodes a protein having activity A" is the point mutation method or hybridization method based on said nucleotide sequence.

However, as both of these methods are based on the nucleotide sequence of DNA actually obtained, neither method is available when obtaining DNA whose sequence is significantly different from, or whose sequence has low sequence identity to said nucleotide sequence, and which "encodes a protein having activity A".

(Note 2)

Point mutation method is a technology for artificially modifying only a desired portion of the nucleotide sequence of the original DNA.

Hybridization method is a method of obtaining DNA, RNA, etc. whose nucleotide sequence has sequence identity to that of the original DNA, by utilizing duplex formation

ability of nucleotides.

[Case 4]

Title of Invention

Anti-allergic agent

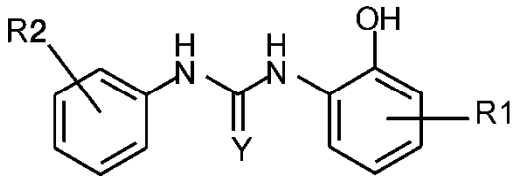
What is claimed is:

[Claim 1]

An anti-allergic drug containing a compound having enzyme A inhibitory activity as an active ingredient.

[Claim 2]

An anti-allergic drug of claim 1, in which the compound having enzyme A inhibitory activity is represented by Formula (I):



(I)

wherein Y is either an oxygen atom or sulfur atom, and R1 and R2 are independently selected from the group consisting of hydrogen, halogen, nitro, cyano, and C1-6 alkyl.

Overview of the description

The present invention relates to a new use of a compound having enzyme A inhibitory activity. A considerable number of compounds are known as those having enzyme A inhibitory activity, including compounds having various chemical structures such as those represented by General Formula (I) in Patent Gazette No. ○, and those disclosed generally or specifically in JP XX-XXXXXX A and Cited Reference △. Among those already known, compound A and compound B are preferable.

Examples show the pharmacological test method and result by which the anti-allergic action is confirmed in several specific compounds represented by Formula (I) (including compound A and compound B).

(However, there is no theoretical explanation that compounds having enzyme A inhibitory activity have an anti-allergic action.)

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement): claim 1

Claim 1 comprehensively describes an anti-allergic drug containing a compound defined by its property, "enzyme A inhibitory activity," as an active ingredient. However, the detailed explanation of the invention only states that it has been confirmed that the specific compound as defined in claim 2 is useful as an active ingredient of an anti-allergic drug, and it does not show any theoretical or experimental grounds to prove the usefulness as an anti-

allergic drug of any compound in general having enzyme A inhibitory activity. Furthermore, the scope of an active ingredient defined only by its property may include compounds having various chemical structures, but it is common general knowledge as of the filing that compounds whose chemical structures significantly differ from each other do not necessarily have the same pharmacological action. No ground can be found for expanding or generalizing the content disclosed in the detailed explanation of the invention, to the scope of the invention of claim 1, which also covers an anti-allergic drug containing, as an active ingredient, a compound whose chemical structure significantly differs from that of the compound defined in claim 2.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

Furthermore, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, the statement of the detailed explanation of the invention cannot be deemed to be informative enough to use an anti-allergic drug containing any compound in general having enzyme A inhibitory activity as an active ingredient.

Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1.

[Remarks]

Claim 1 describes the invention of an anti-allergic drug containing a compound defined by its property, "enzyme A inhibitory activity," as an active ingredient. As it is easy to understand the compound having said property in light of the common general knowledge as of the filing, such compound as defined by the property, "enzyme A inhibitory activity," is sufficiently specified from a technical perspective, and the invention can be clearly identified from the statement of claim 1. Thus, claim 1 satisfies the requirement of Article 36(6)(ii).

Claim 2 satisfies both the requirements of Article 36(6)(i) and (ii), and the detailed explanation of the invention satisfies the enablement requirement with regard to claim 2.

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 1 and maintaining only claim 2.

(Supplementary Explanation)

The scope of an active ingredient defined only by its property may include compounds having various chemical structures. The detailed explanation of the invention only shows examples wherein an anti-allergic action is confirmed in several compounds represented by Formula (I), but it does not indicate any theoretical or experimental grounds to prove the

usefulness as an anti-allergic drug of any compound in general having enzyme A inhibitory activity. Because of this, it is difficult for the applicant to indicate any information as proof of satisfying the requirement of Article 36(6)(i) and the enablement requirement (e.g. the common general knowledge as of the filing other than that taken into consideration by the examiner when making determination).

In such case, the reasons for refusal cannot be overcome even when the applicant submits a certificate of experimental results after the filing to make up for the deficiency of the matters stated in the detailed explanation of the invention, thereby arguing that, in light of the common general knowledge as of the filing, the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the claimed invention, and that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1.

[Case 5]

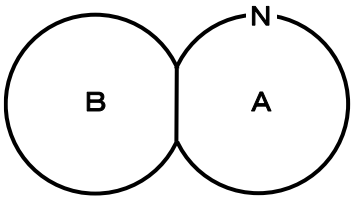
Title of Invention

Compound

What is claimed is:

[Claim 1]

Compounds represented by Formula (I) or salts thereof



（Ⅰ）

wherein ring A is a nitrogen-containing aromatic ring selected from group X, which may be replaced by a substituent selected from group W, and ring B is a carbocyclic ring or heterocyclic ring selected from group Z, which may be replaced by a substituent selected from group Y:

group W: alkyl with 1 to 20 carbon atoms,…

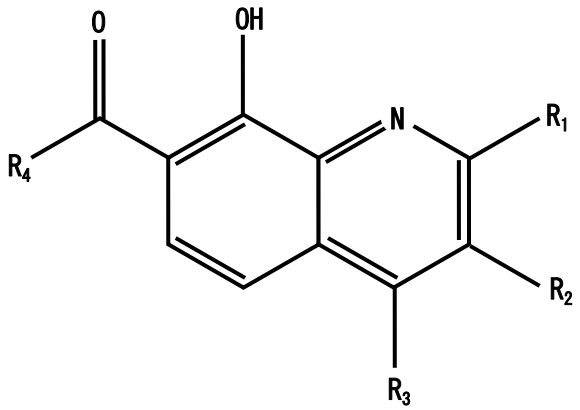
group Z: pyridine, pyrimidine, pyridazine, pyrazine,…

group Y: alkyl with 1 to 20 carbon atoms,…

group Z: benzene,…, pyridine,…, furan,…, thiophene,…

[Claim 2]

Compounds represented by Formula (II) or salts thereof



（Ⅱ）

wherein R1 and R3 are hydrogen, alkyl with 1 to 6 carbon atoms, or halogen, R2 is phenoxy or cycloalkoxy with 3 to 6 carbon atoms, and R4 is hydroxyl, alkoxy with 1 to 6 carbon atoms, or amino.

Overview of the description

The present invention relates to the discovery of compounds represented by Formula

(I) or salts thereof as novel compounds having HIV integrase inhibitory activity.

Examples show specific manufacturing methods of several compounds represented by Formula (II).

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement):Claim 1

Claim 1 describes compounds represented by Formula (I) and claim 1 covers compounds having a variety of chemical structures, whereas the detailed explanation of the invention indicates only several compounds represented by Formula (II) among a number of compounds covered by claim 1. Compounds represented by Formula (I) include compounds whose chemical structures significantly differ from those represented by Formula (II). It is common general knowledge as of the filing that if chemical structures of compounds significantly differ, their manufacturing methods and enzyme activities also significantly differ. No ground can be found for expanding or generalizing the content disclosed in the detailed explanation of the invention to the scope of the invention of claim 1, which also covers compounds whose chemical structures significantly differ from those represented by Formula (II).

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

Furthermore, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, if a person skilled in the art intends to manufacture all compounds covered by Formula (I), he/she would have to make trials and errors, beyond the reasonably-expected extent.

Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1.

[Remarks]

Claim 2 satisfies the requirement of Article 36(6)(i), and the detailed explanation of the invention satisfies the enablement requirement with regard to claim 2.

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 1 and maintaining only claim 2.

(Supplementary Explanation)

The invention of claim 1 covers compounds having a variety of chemical structures, whereas the detailed explanation of the invention only shows examples of several compounds represented by Formula (II). Therefore, it is difficult for the applicant to indicate any information as proof of satisfying the requirement of Article 36(6)(i) and the enablement

requirement (e.g. the common general knowledge other than that taken into consideration by the examiner when making determination).

In such case, the reasons for refusal cannot be overcome even when the applicant submits a certificate of experimental results after the filing to make up for the deficiency of the matters stated in the detailed explanation of the invention, thereby arguing that, in light of the common general knowledge as of the filing, the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the claimed invention, and that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1.

[Case 6]

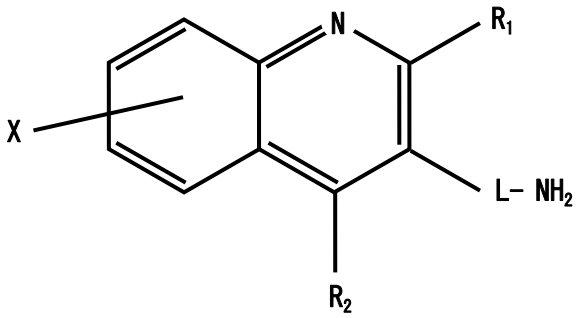
Title of Invention

Peptidase Z inhibitor

What is claimed is:

[Claim 1]

A peptidase Z inhibiting agent containing a compound represented by Formula (I) or salts thereof as an active ingredient:



(I)

wherein R1 and R2 are a hydrocarbon group with 3 to 10 carbon atoms, X is a halogen group, and L is an alkylene group with 1 to 10 carbon atoms.

Overview of the description

Although compounds represented by Formula (I) or salts thereof are publicly known compounds, it has been unknown that they have peptidase Z inhibitory activity.

The present invention relates to the finding that the compounds represented by Formula (I) or the salts thereof have peptidase Z inhibitory activity.

Examples show formulations of a peptidase Z inhibiting agent using several compounds represented by Formula (I), and indicate the pharmacological test method and results by which peptidase Z inhibitory activity is confirmed with regard to the compound wherein both R1 and R2 are propyl groups, L is a butylene group, and X is chlorine group.

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)

Claim 1 comprehensively describes a peptidase Z inhibiting agent containing a compound represented by Formula (I) as an active ingredient, whereas the detailed explanation of the invention only states that peptidase Z inhibitory activity has been confirmed with regard to a specific compound wherein both R1 and R2 are propyl groups. The scope of compounds represented by Formula (I) include compounds with a large side chain, such as those wherein both R1 and R2 are naphthyl groups. However, it is common general knowledge as of the filing that the difference in the size of a side chain would, due to three-dimensional interference, change the interaction with a specific enzyme. No ground

can be found for expanding or generalizing the content disclosed in the detailed explanation of the invention to the scope of the invention of claim 1, which also covers a peptidase Z inhibiting agent containing, as an active ingredient, a compound which significantly differs from said specific compound in terms of the size of a side chain.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

Furthermore, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, the statement of the detailed explanation of the invention cannot be deemed to be informative enough to use a peptidase Z inhibiting agent containing any compound in general represented by Formula (I) as an active ingredient.

Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1.

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by submitting a written opinion in which he/she points out the common general knowledge as of the filing, other than that taken into consideration by the examiner when making determination, to the effect that compounds having the same bone structure tend to have the same activity despite some difference in the size of a side chain, and argues that in light of the entire statement of the detailed explanation of the invention, as well as such other common general knowledge, the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the invention of claim 1. He/she should also argue that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1. In order to support such argument presented in the written opinion, the applicant should also submit a certificate of experimental results which shows, for example, that among the compounds represented by Formula (I) used in the formulations, several compounds with a large side chain (e.g. naphthyl group) actually have peptidase Z inhibitory activity.

(Supplementary Explanation)

The reasons for refusal may not be overcome if both the matter of common general knowledge that the examiner has taken into consideration when making determination and the matter of common general knowledge that the applicant points out in his/her written opinion existed at the time of the filing, and which of these matters of common general knowledge is appropriate for the invention of claim 1 cannot be determined based on the applicant's argument alone (which means that the truth or falsity of the applicant's argument is unclear) (refer to 2.2.1.4(3) and 3.2.3(2)). In such case, if the applicant, by submitting a certificate of experimental results, successfully proves that the matter that the applicant argues in his/her written opinion is appropriate as common general knowledge for

the invention of claim 1, it is established that the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the invention of claim 1, and that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1. In consequence, the reasons for refusal can be overcome.

[Case 7]

Title of Invention

Olefin polymerization catalyst

What is claimed is:

[Claim 1]

An olefin polymerization catalyst consisting of:

(A) metallocene component represented by a general formula Q(C5H4)2MX2, wherein:

C5H4 is a cyclopentadienyl group; Q is a group that cross-links two C5H4 groups, selected from the group consisting of -S-, -NR' -, and -PR' -; M is transition metal selected from the group consisting of titanium, zirconium, hafnium, vanadium, niobium, and tantalum; and X is selected from the group consisting of halogen, -OR' ', and -NR' '2, with R' and R' ' being aliphatic, alicyclic, or an aromatic hydrocarbon group with 6 to 12 carbon atoms; and

(B) alumoxane component.

Overview of the description

The olefin polymerization catalyst according to the present invention is described as having a certain action of…, as a result of the selection of a specific Q, instead of an alkylene group or the ether linkage, which cross-links two cyclopentadienyl groups. It is stated that a metallocene olefin catalyst is generally produced by combining a metallocene component and an alumoxane component, and that…., which is used as an ordinary metallocene olefin catalyst, can be used as an alumoxane compound in the present invention.

Examples show a catalyst wherein the central metal of metallocene (M) is zirconium and indicate the experimental results by which their catalyst activities are confirmed.

Example	1	2	3	4
Q	S	N(Me)	P(Ph)	$N(C_6H_{11})$
M	Zr	Zr	Zr	Zr
X	Cl	Obu	$N(Me)_2$	OPh

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)

The detailed explanation of the invention shows, as a specific example, only an olefin polymerization catalyst wherein the central metal of metallocene component (M) is zirconium. In the field of catalysts in general, it is common general knowledge that If catalyst activity is obtained by using zirconium as the central metal, it is also obtained by using titanium and hafnium, which are transition metals of the same group as zirconium, whereas

if a transition metal of a different group is used, no catalyst activity is obtained or the catalyst activity to be obtained is too low to be used. Accordingly, titanium and hafnium are usable as a catalyst instead of zirconium, which is used in the example, whereas other kinds of metal (vanadium, niobium, and tantalum) are not usable as a catalyst.

Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1, which also covers an olefin polymerization catalyst wherein the central metal (M) is vanadium, niobium, or tantalum.

Furthermore, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, the content disclosed in the detailed explanation of the invention cannot be expanded or generalized to the scope of the claimed invention.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

[Measures of the applicant]

The applicant may submit a written opinion in which he/she indicates the technical document, etc. showing that it is common general knowledge as of the filing that if catalyst activity is obtained by using zirconium as the central metal of a metallocene catalyst, it is also obtained by using vanadium, niobium, or tantalum, and argues that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1, and that in light of the common general knowledge as of the filing, the content disclosed in the detailed explanation of the invention can be expanded or generalized to the scope of the invention of claim 1. The applicant may also submit a certificate of experimental results to support such argument presented in the written opinion.

If it is confirmed that the applicant's argument is appropriate, all of the reasons for refusal can be overcome.

(Supplementary Explanation)

The matter of common general knowledge that the examiner has taken into consideration when making determination relates to the field of catalysts in general, whereas the matter of common general knowledge that the applicant points out in his/her written opinion relates to a specific field of metallocene catalyst within the field of catalysts. As the invention of claim 1 pertains to the field of metallocene catalysts, if the applicant, by indicating the relevant technical document, etc., successfully proves that such matter that he/she points out in the written opinion existed as common general knowledge at the time of the filing, it is established that the matter that the examiner has taken into consideration when making determination is inappropriate as common general knowledge for the invention of claim 1.

The reasons for refusal can be overcome because, in light of the common general knowledge pointed out by the applicant in the written opinion, the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1, and also in light of such common general knowledge, the content disclosed in the detailed explanation of the invention can be expanded and generalized to the scope of the invention of claim 1.

In such case, the applicant does not necessarily have to submit a certificate of experimental results, but is possible to submit it as a means to support his/her argument in the written opinion.

[Case 8]

Title of Invention
　　Antiemetic agent

What is claimed is:
[Claim 1]
　　An antiemetic drug containing ingredient A as an active ingredient.

Overview of the description
　　The present invention relates to a new use of ingredient A (this substance itself is publicly known).
　　The detailed explanation of the invention states the effective dose of ingredient A, the mode of administration, and the method of formulation.
(However, it does not contain any statement of the pharmacological test method or results. Furthermore, the use of ingredient A in an antiemetic drug cannot be presumed from the common general knowledge as of the filing.)

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)
　　The detailed explanation of the invention does not contain any statement of the pharmacological test method or results which show the use of ingredient A as an antiemetic drug. Furthermore, as the use of ingredient A in an antiemetic drug cannot be presumed from the common general knowledge as of the filing, the statement of the detailed explanation of the invention cannot be deemed to be informative enough to use an antiemetic drug containing ingredient A as an active ingredient.
　　Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1, which relates to an antiemetic drug containing ingredient A as an active ingredient.
　　In addition, claim 1 describes an invention relating to an antiemetic drug containing ingredient A as an active ingredient, whereas the detailed explanation of the invention, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, cannot be regarded as disclosing the invention in such a way that a person skilled in the art could recognize that the problem to be solved by the invention of claim 1, which is providing an antiemetic drug containing ingredient A as an active ingredient, would be actually solved.
　　Thus, the invention of claim 1 is not stated in the detailed explanation of the invention.

[Measures of the applicant]
　　The reasons for refusal cannot be overcome even when the applicant argues that

ingredient A functions as an antiemetic drug by submitting a certificate of experimental results which shows the pharmacological test method and results.

(Supplementary Explanation)

The description initially attached to the application does not contain any statement of the pharmacological test method or results which show the use of ingredient A as an antiemetic drug. Furthermore, the use of ingredient A in an antiemetic drug cannot be presumed from the common general knowledge as of the filing. Therefore, the reasons for refusal cannot be overcome even when the applicant argues that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1, and that the invention of claim 1 is stated in the detailed explanation of the invention on the basis of only a certificate of experimental results which is submitted after the filing.

(See: Tokyo High Court Decision dated October 30, 1998 (Hei 8 (Gyo-Ke), No.201, a case to seek rescission of the JPO decision.)

[Case 9]

Title of Invention
　　Vaccine

What is claimed is:
[Claim 1]
　　A vaccine consisting of:
　　(a) a protein consisting of an amino acid sequence of "Met-Ala-Ala-…"; and
　　(b) a pharmaceutically acceptable carrier of (a).

Overview of the description
　　The detailed explanation of the invention specifically states as follows: (1) the DNA which encodes a protein consisting of an HIV-derived amino acid sequence of "Met-Ala-Ala-…" (hereinafter referred to as "protein A") has been identified and obtained; (2) protein A which is encoded by said DNA has been expressed and obtained; (3) a mouse which is given protein A has produced an antibody to protein A.
(However, it is not stated that a neutralizing antibody exists in said antibody to protein A. There is no prior art disclosing that a protein consisting of an amino acid sequence that is highly homologous with said amino acid sequence functions as a vaccine.)

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)
　　The detailed explanation of the invention does not contain any statement of the pharmacological test method or results which show the use of protein A as a vaccine, nor does it contain any specific statement that an antibody to protein A neutralizes HIV activity. Furthermore, there is no protein publicly known prior to the filing which is highly homologous with protein A and functions as a vaccine against HIV, nor can the use of protein A as a vaccine be presumed from the common general knowledge as of the filing. Accordingly, the statement of the detailed explanation of the invention cannot be deemed to be informative enough to use a vaccine containing protein A.
　　Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1 which relates to a vaccine containing protein A.
　　In addition, claim 1 describes an invention relating to a vaccine containing protein A, whereas the detailed explanation of the invention, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, cannot be regarded as disclosing the invention in such a way that a person skilled in the art could recognize that the problem to be solved by the invention of claim 1, which is providing a vaccine containing protein A, would be actually solved.

Thus, the invention of claim 1 is not stated in the detailed explanation of the invention.

[Measures of the applicant]

The reasons for refusal cannot be overcome even when the applicant argues that protein A functions as a vaccine by submitting a certificate of experimental results which shows the pharmacological test method and results about the function of the invention as a vaccine.

(Supplementary Explanation)

The description initially attached to the application does not contain any statement of the pharmacological test method or results which show the use of protein A as a vaccine. Furthermore, the use of protein A as a vaccine cannot be presumed from the common general knowledge as of the filing. Therefore, the reasons for refusal cannot be overcome even when the applicant argues that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1, and that the invention of claim 1 is stated in the detailed explanation of the invention on the basis of only a certificate of experimental results which is submitted after the filing.

(Notes)

In order for protein A consisting of an amino acid sequence of "Met-Ala-Ala-…" to function as a vaccine, it is insufficient that "the animal (i.e. a mouse) which is given protein A recognizes protein A as a foreign substance and produces an antibody to protein A in its body,"−in other words, that said antibody is "immunogenic"−, but it is necessary that "the antibody affects the active portion of protein A and thereby inhibits HIV activity."

However, an antibody which inhibits the activity of a certain substance, i.e. a neutralizing antibody, needs to recognize a neutralizing epitope which, in general, rarely exists in said substance, and such antibody is normally unlikely to be prepared. Consequently, it may be extremely unlikely for an antibody that recognizes a "neutralizing epitope," which may or may not exist in protein A, to be produced in the body of an animal that is given protein A.

[Case 10]

Title of Invention

Arterial sclerosis preventive

What is claimed is:

[Claim 1]

An agent for preventing arteriosclerosis that contains substance X as an active ingredient.

Overview of the description

The present invention relates to the finding that substance X has a strong hydroxy radical scavenging activity and it is extremely effective in preventing arteriosclerosis that is induced by active oxygen.

Example 1 shows the method of producing substance X, and Example 2 shows the experimental results by which it is confirmed that substance X has hydroxy radical scavenging activity. Example 3 specifically describes the method of preparing an agent for preventing arteriosclerosis which contains substance X as an active ingredient.

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)

The detailed explanation of the invention shows the experimental results by which it is confirmed that substance X has a high hydroxy radical scavenging activity. It is common general knowledge as of the filing that a substance having hydroxy radical scavenging activity is effective in preventing arteriosclerosis. Accordingly, even without any pharmacological test method or results which directly show that substance X is effective for the prevention of arteriosclerosis, the statement of the detailed explanation of the invention can be deemed to be informative enough to use an agent for preventing arteriosclerosis that contains substance X as an active ingredient.

Thus, the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1, which relates to an agent for preventing arteriosclerosis that contains substance X as an active ingredient, and the detailed explanation of the invention satisfies the enablement requirement with regard to claim 1.

In addition, in light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, the detailed explanation of the invention can be regarded as disclosing the invention in such a

way that a person skilled in the art could recognize that the problem to be solved by the invention of claim 1, which is providing an agent for preventing arteriosclerosis that contains substance X, would be actually solved.

Thus, the invention of claim 1 is stated in the detailed explanation of the invention, and claim 1 satisfies the requirement of Article 36(6)(i).

[Case 11]

Title of Invention

Anti-inflammatory drug

Scope of Claims

[Claim 1]

An anti-inflammatory drug for oral administration comprising loxoprofen and a compound X of the general formula (I),

formula (I)

(ring A) - B

wherein ring A represents a heterocyclic ring or a benzene ring, and B represents a hydrocarbon chain, a carbocycle or a heterocycle.

Overview of Detailed Description of Invention

At the time of filing, loxoprofen had been a general pharmaceutical component as an anti-inflammatory drug in, for example, medicines for common cold. It is stated that it has been widely known that loxoprofen shows excellent anti-inflammatory effect even in combination with another drug, and there is a problem in which, when loxoprofen is orally administered, it causes damage to gastric mucosa as a side effect.

Meanwhile, at the time of filing, the compound X having the structure represented by general formula (I) had been generally used as organic solvents. The applicant found that the compound X has protecting effect on gastric mucosa by being taken together with loxoprofen.

The compound X wherein ring A is benzene and B is hydrocarbon chain, specifically, that of carbon number of 8 or less is preferable. The methods and results of a pharmacological study are stated: in a case where a specific compound of isobutylbenzene or (3E)-3-octenylbenzene, wherein ring A is benzene and B is isobutyl or (3E)-3- octenyl, was administered with loxoprofen, the effect for reducing gastric ulcer caused by oral loxoprofen administration was obtained, as compared with loxoprofen only.

(However, there is no statement of the effect for protecting gastric mucosa in a case of administering the compound X of the general formula (I) only, a mechanism of its effect for protecting gastric mucosa, and whether each of the compounds of the general formula (I) has similar physiological activity. Furthermore, these were not common general knowledge at the time of filing.)

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement)

An anti-inflammatory drug comprising loxoprofen and the compound X of the general formula (I) are comprehensively claimed in claim 1. The problem to be solved by the

invention claimed in Claim1 is that loxoprofen, an anti-inflammatory drug, causes damage to gastric mucosa when administered orally. To deal with the problem, loxoprofen is combined with the compound X of the general formula (I), resulting the reduction of the damage of gastric mucosa when administered orally. However, in the description of the invention, only the specific compounds, isobutylbenzene and (3E)-3-octenylbenzene, are stated as specific examples with their effect for protecting gastric mucosa when taken together with loxoprofen.

The compound X of the general formula (I) contains compounds whose chemical structures, such as basic backbone and conformation, are different from those of said specific compounds and it is common general knowledge that compounds having largely different chemical structures from each other do not generally have similar physiological effects in a body. Further, taking into consideration of the statement in the description of the invention, as well as the common general knowledge, no ground can be found for expanding or generalizing the effect of isobutylbenzene and (3E)-3-octenylbenzene for protecting gastric mucosa at the time of administering loxoprofen to the scope of the invention claimed in claim 1 which includes compounds having chemical structures largely different from those of said specific compounds.

Therefore, the invention claimed in claim 1 exceeds the extent of disclosure in the description of the invention to which a person skilled in the art would recognize that a problem to be solved by the invention would be actually solved.

[Remarks]

Both ingredients, loxoprofen and the compound X, had been generally used at the time of filing and easily obtained. In light of the common general knowledge that loxoprofen does not lose anti-inflammatory effect even in combination with another drug, the description of the invention is stated in such a manner as to enable a person skilled in the art to produce and use the anti-inflammatory drug of the invention claimed in claim 1 and, therefore, Enablement Requirement is satisfied.

[Measures of the applicant]

The applicant can overcome the reasons for refusal by amending claims so as to ensure that the content disclosed in the detailed description of the invention can be expanded or generalized to the scope of the claimed inventions.

For example, assume that the applicant can amend the scope of claims as described below, and in a written opinion, state that A ring, stated as specifically preferable compounds in the detailed description of the invention, is a benzene ring and B is a chain hydrocarbon group having the carbon number of 8 or less. It can be considered that compounds with such composition have chemical structures not so different from that of isobutylbenzene or (3E)-3-octenylbenzene in which B is a chain hydrocarbon group having the carbon number of 4 or 8, and so, on the basis of the common general knowledge that compounds having the

common chemical structure generally have the similar pharmacological effect in vivo, it is possible to expand or generalize the effect for protecting gastric mucosa that is confirmed for the compound of the invention. When the applicant argued that way, the reasons for refusal can be overcome.

[Claim 1]

An anti-inflammatory drug for oral administration comprising loxoprofen and a compound X having a structure represented by general formula (I),

formula (I)

(A ring) - B

wherein ring A represents a benzene ring and B represents a hydrocarbon chain of the carbon number of 8 or less.

[Case 12]

Title of Invention

Manufacturing method of solid state device

What is claimed is:

[Claim 1]

A manufacturing method for a compound semiconductor device, wherein as part of a method of manufacturing a compound semiconductor mixed crystal containing Indium (In), a step of forming a layer where the In composition is gradually changed by raising or reducing the temperature, while keeping the material supply ratio of In materials and other Group III materials, is added before and after the step of forming the compound semiconductor mixed crystal containing In.

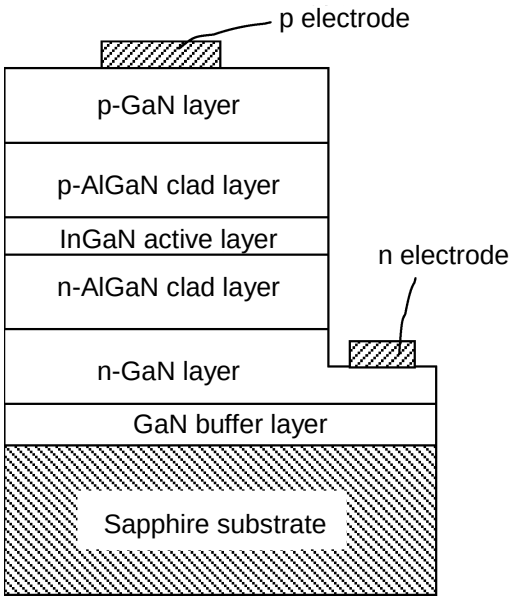
[Claim 2]

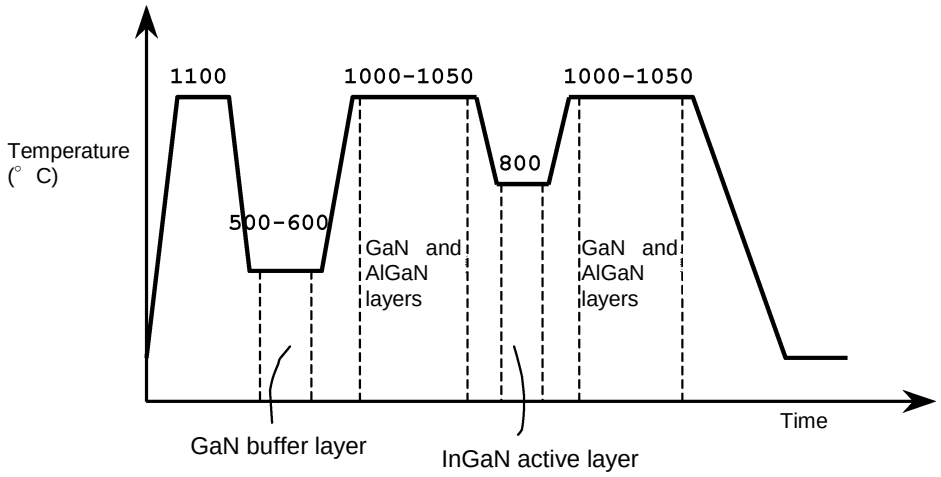
A manufacturing method of a compound semiconductor device as described in claim 1, wherein the compound semiconductor mixed crystal is a nitride compound semiconductor mixed crystal.

Overview of the description

In the course of manufacturing a nitride compound semiconductor device using the Metal Organic Chemical Vapor Deposition (MOCVD) process, the growth temperature of the InGaN active layer is 800° C or lower, whereas the growth temperature of the AlGaN layers between which the InGaN active layer is inserted is approximately 1,100° C. Due to such a large difference in the crystal growth temperature, it was necessary to take steps, before and after the growth of the In-containing layer, to stop the supply of materials and reduce or raise the temperature. However, as a result of the significant temperature changes through these steps and the exposure of crystal to an extremely high temperature during the steps, the crystallization of the hetero-interface and the InGaN layer is considerably deteriorated.

The present invention makes use of the temperature dependence of the heat decomposition of the In-containing nitride layer within the range of the growth temperature between the AlGaN layers and the InGaN layer, that is, the temperature dependence of the uptake rate of In during the crystal growth. The invented method continues to supply the material gas during the steps of raising and reducing the temperature, and performs an additional step of forming a grated layer where the In composition is gradually changed by raising or reducing the temperature, while keeping the material supply ratio, before and after the growth of the InGaN layer. This additional step has made it possible to considerably prevent the deteriorated crystallization of the hetero-interface and the InGaN layer as compared with before.





[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement):Claim 1

The detailed explanation of the invention states that the problem to be solved by the present invention is to prevent the deteriorated crystallization of the hetero-interface and the InGaN layer arising from the necessity of raising and reducing the temperature before and after the growth of the InGaN layer through the MOCVD process. However, it does not mention anything about the facts that also in the course of manufacturing a compound semiconductor mixed crystal containing In, other than InGaN, the steps of raising and reducing the temperature are taken before and after the growth or that problems arise in connection with these steps. There is no ground for proving that it is common general knowledge as of the filing that, with regard generally to a compound semiconductor mixed crystal containing In, not limited to a nitride one, due to the difference in the growth

temperature between the layer containing In and the layer not containing In and the exposure of the base crystal during the steps of raising and reducing the temperature, the crystallization of the hetero-interface and the growth layers is deteriorated. Rather, it is common general knowledge as of the filing that, when applying the MOCVD process, a non-nitride compound semiconductor crystal (e.g. GaAs) usually grows at a temperature lower than 800 ° C, irrespective of whether or not it contains In, and therefore no marked change is seen in relation to the uptake rate of In within the range of the temperature for the growth of a non-nitride compound semiconductor crystal.

Furthermore, the detailed explanation of the invention only indicates a nitride compound semiconductor crystal as a specific example which can solve the problem.

In light of the statement of the detailed explanation of the invention, as well as the common general knowledge as of the filing, which are mentioned above, the content disclosed in the detailed explanation of the invention can be expanded or generalized to the case of manufacturing nitride compound semiconductor mixed crystal, but cannot be expanded or generalized to the case of manufacturing compound semiconductor mixed crystal containing In, not limited to a nitride one.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention in such a way that a person skilled in the art could recognize that a problem to be solved by the invention would be actually solved.

[Remarks]

Claim 2 satisfies the requirement of Article 36(6)(i).

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 1 and maintaining only claim 2.

[Case 13]

Title of Invention

Driving level determination apparatus

What is claimed is:

[Claim 1]

A driving level determination apparatus comprising:

a calculation means for calculating a driving level Lv of a driver based on years of driving Y, a driving frequency F, and a number of accidents N; and a determination means for determining whether the driving level Lv being equal to or more than a predetermined threshold,

wherein the calculation means includes:

a first calculation means for calculating a driving level by Lv = (Y × F)/N; and

a second calculation means for calculating a driving level by Lv = (Y × F)/0.5.

Overview of the description

The present invention is an invention having an objective to determine a driving level of a driver appropriately in accordance with the number of accidents (including the case of no accident).

In one example, there is stated that a driving level Lv of a driver is calculated based on years of driving Y indicating the driving career of a driver, a driving frequency F indicating a frequency that the driver has driven vehicles in the past one year, and the number of accidents N indicating the number of accidents caused by the driver in the past Y years.

Here, the driving level Lv of a driver is calculated by (expression 1).

- Expression 1

Driving level Lv = (years of driving Y × driving frequency F)/ the number of accidents N

In this regard, however, in the case of the number of accidents N being zero, the driving level Lv is determined by (expression 2).

- Expression 2

Driving level Lv = (years of driving Y × driving frequency F)/0.5

Then, whether the driving level of a driver is high or not is determined by whether the driving level Lv obtained by (expression 1) or (expression 2) is higher than a predetermined threshold.

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement)

In claim 1, in what cases a driving level is calculated by the first calculation means, and in what cases it is calculated by the second calculation means are not specified at all. Therefore, the invention according to claim 1 also includes cases where a driving level is calculated by the second calculation means even when the number of accidents is not zero.

In the detailed description of the invention, there is stated that, in the case of the number of accidents being zero, a driving level is calculated by (expression 2), and, in other cases, that is, cases where the number of accidents is one or more, a driving level is calculated by (expression 1). By way of experiment, if a driving level is calculated by (expression 1) when the number of accidents is zero, a driving level will be an infinite value at all times regardless of years of driving and a driving frequency, resulting in being determined at all times as higher than a predetermined threshold. Therefore, there is a technical meaning to calculate a driving level, not by (expression 1), but by (expression 2) only when the number of accidents is zero.

However, claim 1 can include a driving level determination apparatus that calculates a driving level by the second calculation means corresponding to (expression 2) even when the number of accidents is not zero (for example, when the number of accidents is one). In such apparatus, identical values of the driving level Lv are calculated by (expression 2) in a case where the number of accidents is zero and also in a case where it is one if conditions except for the number of accidents are the same. As a consequence, in the driving level determination apparatus of such aspects, even if the common general knowledge as of the filing is considered, a person skilled in the art cannot recognize that the problem to be solved by the invention that "determining the driving level of a driver in accordance with the number of accidents (including cases of zero) appropriately" can be solved. Therefore, grounds for expanding or generalizing contents disclosed in the detailed description of the invention to the scope of the invention that can include such cases cannot be found.

[Measures of the applicant]

The reason for refusal is resolved by amending the claim to clarify that the calculation means calculates a driving level by the second calculation means only when the number of accidents is zero.

[Case 14]

Title of Invention

Heater controller

What is claimed is:

[Claim 1]

A heater controller configured to determine a stop time of a heater during a quiescent time of a production apparatus, the production apparatus being kept at a preset temperature suited for operation of the production apparatus by the heater during operation, to resume an operation of the production apparatus at the preset temperature at an end of the quiescent time,

wherein the stop time is determined based on a predetermined condition.

Overview of the description

The present invention relates to a heater controller to determine an appropriate stop time of a heater provided in a production apparatus corresponding to a quiescent time of the production apparatus, and its objective is to make the stop time long to a maximum extent to prevent waste of energy.

In a conventional heater controller, the heater is made to operate also during a quiescent time of a production apparatus because, if the heater is made to resume its operation at the time the quiescent time is ended, a delay of work is caused until the temperature rises to a preset temperature suited for operation of the production apparatus. Therefore, this leads to waste of energy.

Although controllers that set up a stop time of a certain period of time based on only a quiescent time to prevent waste of energy are known, only simple control such as just establishing a stop time of 20% of the quiescent time and setting up a stop time about 2 minutes shorter than a quiescent time is seen. Therefore, a situation that waste of energy cannot be reduced sufficiently, or a fixed period of time is required until re-operation after the end of a quiescent time has been caused.

According to a heater controller of the present invention, a suitable stop time of a heater can be determined, and, by this, the heater can be stopped over a long period as much as possible during a quiescent time of a production apparatus while preventing a delay of re-start of work after the end of the quiescent time from occurring. Consequently, the heater is stopped over a long period to a maximum extent during the quiescent time while enabling to immediately restart work at the time of the end of the quiescent time of the production apparatus, and, thus, waste of energy can be prevented.

[Description of Embodiments]

During a quiescent time of a production apparatus, the longest time during which a

heater can be stopped is a time obtained by subtracting the shortest time necessary to make the temperature dropping while the production apparatus is stopped return to a preset temperature by the heater from the quiescent time.

As a consequence, a stop time ts is obtained by the following expression (1)

$$ts = tr \times \beta\Delta Tu\ (\alpha\Delta Td + \beta\Delta Tu) \ldots (1)$$

where tr is a quiescent time, ΔTd a temperature decrease rate of a production apparatus when a heater is stopped, ΔTu a temperature increase rate of the production apparatus when the heater is in operation, and α and β are constants based on actual measured values.

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement)

In the detailed description of the invention there is stated, as a problem to be solved by the invention, to determine a suitable stop time of a heater and make a heater stop over a long period to a maximum extent to prevent waste of energy.

Then, in the mode for carrying out the invention, it is stated that a stop time of a heater that can solve the problem is obtained by the above-mentioned expression (1) as a time obtained by subtracting the shortest time necessary for making the temperature dropping while a production apparatus is made to be stopped return to a preset temperature by the heater from the quiescent time.

However, in claim 1, regarding such determination of a stop time, there is only stated that "the stop time is determined based on a predetermined condition". It is obvious that the problem to be solved by the invention can be solved, not by simple control, but only by complicated control such as determining a stop time based on a quiescent time, a temperature decrease rate of a production apparatus during the stoppage period of a heater, and a temperature increase rate of the production apparatus during operation of the heater. As seen above, the solution for the problem to be solved by the invention is not reflected, and, thus, the invention according to claim 1 exceeds the scope stated in the detailed description of the invention.

[Measures of the applicant]

If the means stated in the detailed description of the invention is reflected in claim 1 by amendment, the reason for refusal is resolved.

For example, the statement of "wherein the stop time is determined based on a predetermined condition" should be amended as "wherein the stop time is calculated based on the quiescent time, a temperature decrease rate of the production apparatus during the stoppage period of the heater, and a temperature increase rate of the production apparatus during operation of the heater so as to make a temperature of production apparatus reach the preset temperature at an end of the quiescent time".

Alternatively, it should be amended as

"wherein the stop time is obtained by a following expression (1)

$$ts = tr \times \beta\Delta Tu\ (\alpha\Delta Td + \beta\Delta Tu) \quad ... (1)$$

where ts is the stop time, tr the quiescent time, ΔTd the temperature decrease rate of the production apparatus when the heater is stopped, ΔTu the temperature increase rate of the production apparatus when the heater is in operation, and α and β are constants based on actual measured values".

[Case 15]

Title of Invention

Stretched polypropylene film

What is claimed is:

[Claim 1]

A stretched polypropylene film consisting of a mixed composition of (i) 60 to 90 weight percentage of crystalline polypropylene, in which the relationship between the percentage of isotactic content (P) and the fluidity index (Q) measured by a measuring device A is represented as $1.00 \geqq P \geqq 0.025\log Q+0.940$, and (ii) 10 to 40 weight percent of resin X.

Overview of Detailed Description of Invention

The purpose of the present invention is to provide a stretched polypropylene film that is highly moisture proof and stiff.

The crystalline polypropylene used in the present invention meets the condition of $1.00 \geqq P \geqq 0.025\log Q+0.940$. By using such specific type of crystalline polypropylene, a more moisture-proof and stiffer film can be obtained as compared to a stretched film obtained by adding resin X to a general type of crystalline polypropylene in which the percentage of isotactic content (P) is outside that range. In order to obtain a film that is more moisture proof by using a general type of crystalline polypropylene, it is necessary to increase the quantity of resin X to be added. However, the addition of a large quantity of resin X would significantly reduce the processability of the composition to be obtained and would also increase costs.

In the context of the present invention, the "percentage of isotactic content (P)" refers to the percentage of propylene monomer units wherein five units are isotactically bonded (all methyl groups in the propylene side chain are identically oriented and the propylene units are joined in a head-to-tail arrangement) in succession, among the total propylene monomer units that constitute polypropylene.

The detailed explanation of the invention indicates the calculation method of P and the measurement method of Q using measuring device A.

Examples 1 to 7 and Comparative Examples 1 to 7 show that various types of crystalline polypropylene with P and Q having different values have been manufactured, and that a stretched film has been manufactured using a mixed composition of 60 to 90 weight percent of such crystalline polypropylene and 10 to 40 weight percent of resin X, accompanied by the measurement results of the moisture permeability and stiffness modulus of the film. More specifically, it is shown that the stretched film in Examples 1 to 7, made using crystalline polypropylene with P and Q meeting said formula, is more moisture proof and stiff as compared to the stretched film in Comparative Examples 1 to 7, made using crystalline polypropylene with P and Q not meeting said formula. It is also shown that even

when using crystalline polypropylene with P and Q meeting said formula, a film that is highly moisture proof cannot be obtained if the quantity of resin X to be added is small (Comparative Example 8), whereas it is impossible to make a film if the quantity is too large (Comparative Example 9).

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement)

The detailed explanation of the invention states that the problem to be solved by the present invention is to provide a stretched polypropylene film that is highly moisture proof and stiff, and that this problem can be solved by using crystalline polypropylene that meets the formula mentioned in claim 1. Examples 1 to 7 and Comparative Examples 1 to 7 show that various types of crystalline polypropylene with P and Q having different values have been manufactured, and it is shown that the stretched film in Examples 1 to 7, made using crystalline polypropylene with P and Q meeting said formula, is more moisture proof and stiff as compared to the stretched film in Comparative Examples 1 to 7, made using crystalline polypropylene with P and Q not meeting said formula. Therefore, a person skilled in the art can recognize that a stretched polypropylene film that is highly moisture proof and stiff can be obtained by using crystalline polypropylene that meets said formula.

Thus, claim 1 can be deemed to describe the invention within the scope described in the detailed explanation of the invention in such a way that a person skilled in the art could recognize that the problem to be solved by the invention would be actually solved, and accordingly, claim 1 satisfies the requirement of Article 36(6)(i).

Furthermore, the substantial relationship between the problem to be solved by the invention and said formula can be understood and the technical significance of the invention of claim 1 can also be understood. In this respect, the detailed explanation of the invention satisfies the ministerial ordinance requirement with regard to claim 1.

- Article 36(6)(ii) (Clarity Requirement)

Since it is not always easy to define a macromolecular compound by its chemical structure, a macromolecular compound is sometimes defined by a formula containing characteristic values. In such case, if specific characteristic values provided by the formula can be understood quantitatively by taking into account the statements of the description and drawings, as well as the common general knowledge as of the filing, it is often possible, in the case of an invention to be identified by a macromolecular compound defined by the formula, to clearly identify the invention based on which the patentability requirements such as novelty and inventive step are to be determined.

With regard to the invention of claim 1, while taking into account the statements of

the description, it is possible to understand that a stretched polypropylene film with a specified range of moisture permeability and stiffness can be obtained by using crystalline polypropylene that meets the aforementioned formula. Therefore, by taking into account the statement of the description, the invention can be clearly identified from the statement of claim 1, and accordingly, claim 1 satisfies the requirement of Article 36(6)(ii).

[Case 16]

Title of Invention

Oriented wrap films

What is claimed is:

[Claim 1]

A oriented wrap film made of resin that contains a biodegradable polymer which satisfies formula (1),

formula (1) : 1.61na-1.78・NS・1.61na-2.43,

wherein NS represents the plane orientation coefficient and na represents the average refractive index.

[Claim 2]

The oriented wrap film according to claim 1, wherein the resin comprises 20-40 wt.% of polylactic resin and 60-80 wt.% of resin X.

Overview of the description

A problem to be solved by the invention is to provide a oriented wrap film which is made of resin containing a biodegradable polymer and which has excellent strechability and openability. As a biodegradable polymer is generally fragile and less stretchable, it is difficult to use it to make a oriented wrap that requires strechability. However, the applicant found that the problem can be solved by using a film satisfying formula (1), which is made of newly prepared specific resin, without employing specific production processes.

In order to obtain a oriented wrap film having excellent strechability and openability, it is important to use resin comprising 20-40 wt.% polylactic resin and 60-80 wt.% resin X, and to have a relation between the plane orientation coefficient and the average fraction index satisfying formula (1). Such film was not known in the past.

In the detailed description of the invention, measurement methods of the surface orientation factor and the mean refractive index are described.

In examples 1-5, it is described that a film was obtained by extrusion of a resin composition in which inorganic particles Y were mixed in resin comprising 20-40 wt.% polylactic resin and 60-80 wt.% resin X; the film was biaxially oriented at a predetermined ratio; and the film satisfying formula (1) was produced by heat treatment of the biaxially oriented film at a predetermined temperature for a predetermined period of time.

As comparative examples 1 and 2, films were produced by a method similar to examples 1 and 2, except that the mixing ratio of polylactic resin and resin X is different. As comparative example 3, a film was produced with a mixing ratio of polylactic resin and resin X similar to those of examples 3 and 4, without orienting.

In examples, it is also described that the films of comparative examples 1-3 did not satisfy formula (1); and the films of examples 1-5 have more excellent strechability and

openability than that of comparative examples 1-3 with the measurement result of strechability and openability of the films of examples 1-5 and comparative examples 1-3.

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Ministerial Ordinance Requirement): claim 1

In the detailed description of the invention, it is stated that a problem to be solved by the invention is to provide a oriented wrap film which is made of resin that contains a biodegradable polymer and which has excellent strechability and openability, and the problem can be solved by a film satisfying formula (1) in claim 1.

In the detailed description of the invention, it is stated that in order to obtain a oriented wrap film having excellent strechability and openability, it is important to use resin comprising 20-40 wt.% polylactic resin and 60-80 wt.% of resin X.

Further, from the statements of examples and comparative examples, it is confirmed that the oriented film having said specific resin composition which satisfies formula (1) has excellent strechability and openability.

However, it was common general knowledge as of the filing that the resin composition of the oriented film has significant influence on strechability and openability, and there is no ground for proving that any film whose resin composition is quite different from that of said specific film can solve the problem if it only satisfies formula (1).

Therefore, the invention claimed in claim 1 exceeds the scope stated in the detailed description of the invention.

Further, taking into consideration of the statement of the detailed description of the invention, as well as the common general knowledge as of the filing, which are mentioned above, since the relation between the problem to be solved by the invention and the formula according to claim 1 is not stated so as to be substantially understood, the technical significance of the invention claimed in claim 1 is unclear and the detailed description of the invention does not satisfy Ministerial Ordinance Requirement.

- Article 36(4)(i) (Enablement Requirement), Article 36(6)(i) (Support Requirement): claim 1

In the detailed description of the invention, only resin comprising 20-40 wt.% polylactic resin and 60-80 wt.% resin X is specifically stated as the oriented wrap film satisfying formula (1). However, different kinds of biodegradable polymer having various properties have already been known, and it was common general knowledge as of the filing that the surface orientation factor and the mean refractive index of a oriented film made of biodegradable polymer significantly differ depending on the resin composition. Thus, a person skilled in the art who intends to produce the oriented wrap film satisfying formula (1), while applying a resin composition significantly different from said specific resin composition, would have to make trials and errors and/or complicated and sophisticated

experimentation beyond an extent to which a person skilled in the art should be reasonably expected to make.

Therefore, the detailed description of the invention is not clearly and sufficiently stated so as to enable a person skilled in the art to carry out the invention claimed in claim 1 in which the resin composition is not defined.

Although in claim 1, the invention relating to a oriented wrap film made of resin that contains a biodegradable polymer which satisfies formula (1) is stated, taking into consideration the statement of the detailed description of the invention, as well as the common general knowledge as of the filing, which are mentioned above, there is no ground for expanding or generalizing the content disclosed in the detailed description of the invention, to the scope of the invention claimed in claim 1 which includes a film whose resin composition is quite different from that of said specific film stated in the detailed description of the invention.

Therefore, the invention claimed in claim 1 exceeds the scope stated in the detailed description of the invention.

[Remarks]

In the detailed description of the invention, it is stated that a problem to be solved by the invention is to provide a oriented wrap film which is made of resin that contains a biodegradable polymer and which has excellent strechability and openability, and in order to obtain a oriented wrap film having excellent strechability and openability, it is important to use resin comprising 20-40 wt.% polylactic resin and 60-80 wt.% resin X.

Further, in examples and comparative examples, it is stated that a oriented wrap film having excellent strechability and openability can be obtained by using a film having said specific resin composition so as to enable a person skilled in the art to understand.

Thus, in claim 2, the invention within the scope stated in the detailed description of the invention so as to enable a person skilled in the art to understand that the problem to be solved by the invention can be solved, is stated, and claim 2 satisfies Support Requirement.

Further, the problem to be solved by the invention and the solution thereof can be understood, the technical significance of the invention claimed in claim 2 can also be understood, and the detailed description of the invention satisfies Ministerial Ordinance Requirement with respect to claim 2.

In the detailed description of the invention, the invention claimed in claim 2 is clearly and sufficiently stated so as to enable a person skilled in the art to carry out the invention claimed in claim 2, and the detailed description of the invention satisfies Enablement Requirement with respect to claim 2.

[Measures of the applicant]

The applicant can overcome all the reasons for refusal by deleting claim 1 and leaving only claim 2.

[Case 17]

Title of Invention
Pencil lead

What is claimed is:
[Claim 1]
A pencil lead made of carbon that is obtained by mixing and baking graphite and binding agents, wherein the porosity is 15 to 35%; as compared to the total volume of pores, the relationship between (A) the percentage of volume of pores of a pore size (a) of $0.002 \leqq a \leqq 0.05$ (μm) and (B) the percentage of volume of pores of a pore size (b) of $0.05 < b \leqq 0.20$ (μm) is represented by $1.1 < A/B < 1.3$, $A+B \geqq 80\%$; and the percentage of volume of pores of a pore size (a) that exist at the central part covering 50% of the diameter of the pencil lead (A1) is $0.8 \leqq A1/A \leqq 0.9$.

Overview of the description
The purpose of the present invention is to provide a pencil lead which has proper strength, and offers a good writing feel and blackness suitable for practical use. As a result of trials and errors made by using various raw materials for manufacturing a pencil lead, and changing manufacturing conditions including conditions for mixing, extrusion, and baking, it is found that said purpose can be achieved when the pores in the pencil lead meet certain conditions.

Examples and comparative examples indicate the measurement results of strength, writing feel, and blackness with regard to a pencil lead that meets the numerical conditions mentioned in claim 1 and to a pencil lead that does not meet those conditions. It is shown that the pencil lead that meets said conditions is superior in strength, writing feel, and blackness, to the one that does not meet those conditions.
(However, there is no specific statement as to the raw materials and manufacturing conditions required for manufacturing a pencil lead that meets the numerical conditions mentioned in claim 1.)

[Overview of Reason for Refusal]
- Article 36(4)(i) (Enablement Requirement)

It is common general knowledge as of the filing that it is difficult to control the porosity, pore size and pore distribution of a pencil lead, and that these factors are closely connected to its raw materials as well as the manufacturing conditions, including the conditions for mixing, extrusion and baking. However, the detailed explanation of the invention does not state how the raw materials and manufacturing conditions should be adjusted in order to manufacture the claimed pencil lead (in particular, the manufacturing conditions for controlling the volume of the two types of pores which have different sizes

and the distribution of them), nor can this point be deemed to be included in the scope of the common general knowledge as of the filing. Accordingly, in order to prepare the desired raw materials and manufacturing conditions, a person skilled in the art would have to make trials and errors or conduct complicated experimentation, beyond the reasonably-expected extent.

Thus, the detailed explanation of the invention is not stated clearly or sufficiently as to enable a person skilled in the art to work the invention of claim 1.

[Measures of the applicant]

It is difficult for the applicant to overcome the reasons for refusal.

(Supplementary Explanation)

The detailed explanation of the invention does not state the raw materials or manufacturing conditions to the extent enabling a person skilled in the art to manufacture the claimed product, nor can these factors be deemed to be included in the scope of the common general knowledge as of the filing. Therefore, the reasons for refusal cannot be overcome even when the applicant submits a written opinion or certificate of experimental results after the filing to clarify the raw materials and manufacturing conditions, thereby arguing that the detailed explanation of the invention is stated clearly and sufficiently as to enable a person skilled in the art to work the invention of claim 1.

In general, specific numerical values regarding the raw materials and manufacturing conditions required for manufacturing the claimed product must be disclosed in the description initially attached to the application.

[Case 18]

Title of Invention

Zoom lens

What is claimed is:

[Claim 1]

A zoom lens, comprising: a first lens group (Note 1) having negative refractive power; a second lens group having positive refractive power; and a third lens group having positive refractive power, the first to third lens groups being arranged in sequence from an object side,

wherein, on an occasion of zooming from a wide-angle end to a telephoto end, a distance between the first lens group and the second lens group is decreased and a distance between the second lens group and the third lens group is increased to satisfy conditions of

$1.8 < |f1/fw| < 2.5$

$0.5 < f3/f2 < 1.5$

where fw is a focal length of a variable focal length lens system in a wide-angle end,

f1 is a focal length of the first lens group,

f2 is a focal length of the second lens group, and

f3 is a focal length of the third lens group.

Overview of the description

The present invention has an object to provide a zoom lens which has excellent optical performance that aberrations are well corrected over the entire zoom range. In the detailed description of the invention, there is stated an example of a zoom lens of three-group configuration including a first lens group having negative refractive power, a second lens group having positive refractive power, and a third lens group having positive refractive power, arranged in sequence from the side of an object, and there is also stated that a lens that does not have power substantially may be added to the zoom lens of three-group configuration.

In this regard, however, about a zoom lens including lens groups of no smaller than four including the first lens group, the second lens group, and the third lens group, there is no principle explanation of a degree that a person skilled in the art can understanding that a zoom lens of four or more lens groups has optical performance similar to that of a zoom lens of three-group configuration, and, also, there is no statements about an example of a zoom lens having the number of groups different from that of a zoom lens of three-group configuration.

(Note 1)

Unless otherwise noted, in the technical field of a lens system, "lens group" means a

lens group having power.

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement)

In claim 1, there is stated that "a zoom lens, comprising: a first lens group; a second lens group...; a third lens group ...,", and, thus, it is understood that a zoom lens made by adding another lens group (for example, a fourth lens group) to a zoom lens of three-group configuration is also included in this invention according to claim 1 (refer to (Supplementary explanation)). In contrast, in the detailed description of the invention, there is only stated a zoom lens of three-group configuration as a specific example. In addition, in the technical field related to configuration of a lens system, it is common general knowledge that optical performance (aberrations etc.) that can be obtained differs significantly when the number of lens groups constituting a lens system differs. In contrast, in the detailed description of the invention, there is no statement at all about examples concerning a zoom lens including four or more lens groups including the first lens group, the second lens group, and the third lens group, and, in addition, although there is a statement that a lens that does not have power substantially may be added a zoom lens of three-group configuration, there exists no principle explanation of a degree that it can be understood that the zoom lens including four or more lens groups has optical performance similar to that of a zoom lens of three-group configuration.

As a consequence, it cannot be said that a person skilled in the art can expand or generalize a zoom lens of three-group configuration including the first lens group having negative refractive power, the second lens group having positive refractive power, and the third lens group having positive refractive power, arranged in sequence from the side of an object as is stated in the detailed description of the invention to a lens-group-added zoom lens other than that while still keeping optical performance similar to that of a zoom lens of three-group configuration.

Accordingly, the invention according to claim 1 exceeds the scope stated in the detailed description of the invention.

[Measures of the applicant]

If the statement of claim 1 is amended as any of the following statements, for example, the reason for refusal is resolved.

(1) "A zoom lens of three-group configuration, comprising a first lens group having negative refractive power, a second lens group having positive refractive power, and a third lens group having positive refractive power, the first to third lens groups being arranged in sequence from an object side,..."

(2) "A zoom lens substantially comprising three groups of a first lens group having negative refractive power, a second lens group having positive refractive power, and a third lens group having positive refractive power, the first to third lens groups being arranged in sequence

from an object side,..."
(3) "A zoom lens comprising a first lens group having negative refractive power, a second lens group having positive refractive power, a third lens group having positive refractive power, and a lens not having power substantially, the first to third lens groups being arranged in sequence from an object side..."

Meanwhile, regarding the item (3) above, it is also possible to state it in a form referring to the statement of a claim such as "The zoom lens according to claim N, further comprising a lens not having power substantially".

(Supplementary Explanation)
(1) In the technical field of a lens system, it is common general knowledge that when the number of lens groups included in a lens system differs, optical performance that is obtained (aberrations and the like) largely differs. For that reason, in view of common general knowledge as of the filing, regarding an invention of a lens system including one or more lens groups, the significance of the invention is construed in a way that a term of "closed-ended claim form (Note 2)" and a term of "open-ended claim form (Note 3)" used on the occasion of stating a lens groups in a claim as matters specifying the invention have different meanings from each other.

(Note 2)
A form that does not allow the lens system to include a lens group other than the lens groups stated in the claim. It is construed as the lens groups included in the lens system are only n lens groups of the first lens group to n-th lens group, literally, and lens groups other than those are not included.

Example 1: A lens system consisting of a first lens group ..., a second lens group ..., an n-th lens group ...
Example 2: A lens system constituted of a first lens group ..., a second lens group ..., an n-th lens group ...

(Note 3)
A form that allows the lens system to include a lens group other than the lens groups stated in the claim. It is construed as the lens system may include, not only n lens groups of the first lens group to the n-th lens group, but also, an n+1-th lens group, n+2-th lens group, and the like literally.

Example 1: A lens system including a first lens group ..., a second lens group ..., an n-th lens group ...
Example 2: A lens system containing a first lens group ..., a second lens group ..., an n-th

lens group ...
Example 3: A lens system comprising ..., or a lens system consisting of at least ..., and so on

(2) In the case of a closed-ended claim form, when, in the detailed description of the invention, a lens system including only n lens groups of the first lens group to an n-th lens group are stated specifically as lens groups, and there is also stated in a manner that a person skilled in the art can recognize that, by that lens system, the problem to be solved by the invention can be solved, the statement of the scope of claims complies with the Support Requirement.

In addition, even when a claim of a closed-ended claim form includes the statement of "substantially n" regarding the number of lens groups or the statement of "not having lens power substantially" pertinent to lens power as the following examples, the Support Requirement is satisfied. Furthermore, the examiner shall not determine, in principle, that it fails to meet the Clarity Requirement for a reason of such statement.

Example 1: A lens system consisting substantially of n lens groups of a first lens group ..., a second lens group ..., and an n-th lens group ...
Example 2: A lens system consisting of n lens groups of a first lens group ..., a second lens group ..., and an n-th lens group ..., and a lens not having power substantially

Meanwhile, regarding example 2, it is also possible to state it in a form referring to a statement of a claim such as "The lens system of claim N further comprising a lens not having power substantially".

(Reason)

On the occasion of construing the semantic content and technical meaning of the statement of "substantially n" pertinent to the number of lens groups or the statement of "not having lens power substantially" pertinent to lens power in a claim, not only the statement in question, but also statements in the description and drawings, and common general knowledge shall be taken into consideration.

In the technical field of a lens system, it is common general knowledge that even if a lens group having little power is added to a lens system having a particular lens group configuration, it exerts no influence in principle on optical performance realized by the lens system. In view of this common general knowledge, it is often the case that "substantially n" can be understood as it has a meaning that other optical elements (for example, a lens group having little power) having no influence in principle on optical performance realized by the lens system may be included. It is also often the case that "not having power substantially" can be understood as it has a meaning that power to exert an influence on optical performance realized by the lens system in principle is not possessed.

Accordingly, if so understood, even if there is the statement of, in a claim, "substantially n" or "not having lens power substantially", it is determined, usually, that the

meaning of the statement in question of the claimed invention is clear considering statements of the description or drawing and common general knowledge.

In addition, based on the above-mentioned common general knowledge, also in cases where, by the statement of "substantially n" or "not having lens power substantially" in a claim, a lens system formed by adding a lens group having little power or another optical element not exerting optical influence on an original lens system to the original lens system is included in the claimed invention, it is determined, usually, that the claimed invention in question is stated in the detailed description of the invention if a lens system including only n lens groups of a first lens group to an n-th lens group is stated specifically as lens groups, and there is stated in a manner that a person skilled in the art can recognize that the problem to be solved by the invention can be solved by the lens system.

(3) In the case of an open-ended claim form, there is a case that determination as shown in "Overview of the Reason for Refusal" in the present case is made. In this regard, however, the examiner shall note that, even in the case of an open-ended claim form, if the contents stated in the detailed description of the invention can be expanded or generalized to the scope of the claimed invention as a result of comprehensively determining situations such as whether there are stated, in the detailed description of the invention, specific examples of a plurality of lens systems having the number of lens groups different from each other sufficiently, and whether there are sufficiently stated explanations with regard to the principle of the invention of a lens system and the influence of the number of lens groups on that principle, Support Requirement is satisfied.

[Case 19]

Title of Invention

In-vehicle head up display

What is claimed is:

[Claim 1]

An in-vehicle head up display configured to display an image in a position of a predetermined distance (y) outside a window glass (5) by a display image projected on the window glass, the in-vehicle head up display comprising:

a projection device (4) configured to project the display image;

a light path changing means (6) for turning a light path of the display image projected from the projection device to the window glass of a vehicle;

a transfer means for transferring at least one of the projection device and the light path changing means;

a light detecting unit configured to detect illuminance of outside light entering the window glass; and

a control unit configured to make display luminance of the projection device brighter as illuminance of outside light detected by the light detecting unit becoming brighter.

Overview of the description

The claimed invention is an invention that relates to an in-vehicle head up display to display an image outside a window glass.

However, because an image displayed outside a window glass is formed on the extension of a line connecting the image projected on the window glass and the eye level of a driver, the position and angle of the image changes inevitably by a change of a position of the eye level.

The first problem to be solved by the claimed invention is to provide an in-vehicle head up display that can adjust an irradiation position of a display image projected on a window glass in accordance with the eye level of a driver without causing a shift of a position and an angle of the image.

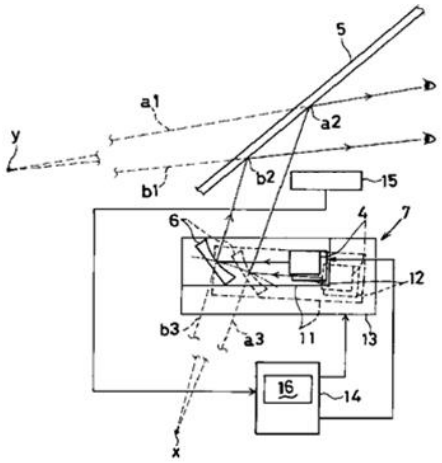
It is possible to solve the above first problem by making the display and the light path changing means move together along an arc centered at an intersection point (x) of a first virtual visual line (a3) and a second virtual visual line (b3). Here, the first virtual visual line (a3) is the reflection of a first visual line (a1) by the window glass, the first visual line (a1) being a line through which a driver having a high eye level sees an image of a predetermined position (y) outside the window glass, and a second virtual visual line (b3) is the reflection of a second visual line (b1) by the window glass, the second visual line (b1) being a line through which a driver having a low eye level sees an image of a predetermined position (y) outside the window glass (refer to Fig. 1).

In addition, regarding an image displayed outside a window glass, an image projected on the window glass may be difficult to be seen due to influence of outside light. For this reason, when outside light is bright, visibility of an image projected on the window glass is decreased naturally.

A second problem to be solved by the claimed invention is to provide an in-vehicle head up display that can display an image of a good visibility without influenced by outside light.

It is possible to solve the above-mentioned second problem by making display luminance of a projection device brighter as illuminance of outside light becomes brighter.

Drawing



14 Control circuit
15 Operating means

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement)

According to the statement of the detailed description of the invention, the first problem to be solved is to adjust an irradiation position of a display image projected on a window glass in accordance with the eye level of a driver without causing a shift of the position and angle of the image, and it is found that the first problem is solved by moving the projection device and the light path changing means together along an arc centered at the intersection point (x) between the first virtual visual line (a3) and the second virtual visual line (b3).

Here, there is stated in claim 1 that "a transfer means for transferring at least one of the projection device and the light path changing means", and, thus, it leads to include also transfer means that fixes one of the projection device and the light path changing means, and

moves only the other. However, the above-mentioned problem is not solved by such transfer means because the position or angle of an image is changed inevitably.

For this reason, at first glance, means for solving the above-mentioned first problem is not reflected in claim 1.

On the other hand, according to the statement of the detailed description of the invention, the second problem to be solved is to display an image of a good visibility without influenced by outside light, and it is found that the problem is solved by making display luminance of a projection device brighter as illuminance of outside light becomes brighter.

Here, in claim 1, there is stated that "a light detecting unit configured to detect illuminance of outside light entering the window glass and a control unit configured to make display luminance of the display brighter as illuminance of outside light detected by the light detecting unit becoming brighter", and, thus, the above-mentioned problem is solved.

Therefore, it can be said that, in claim 1, an invention of the scope stated in the detailed description of the invention is stated in a manner that a person skilled in the art can recognize that the problem to be solved by the invention can be solved. From this, claim 1 complies with the Support Requirement.

[Case 20]

Title of Invention

Colored photosensitive composition

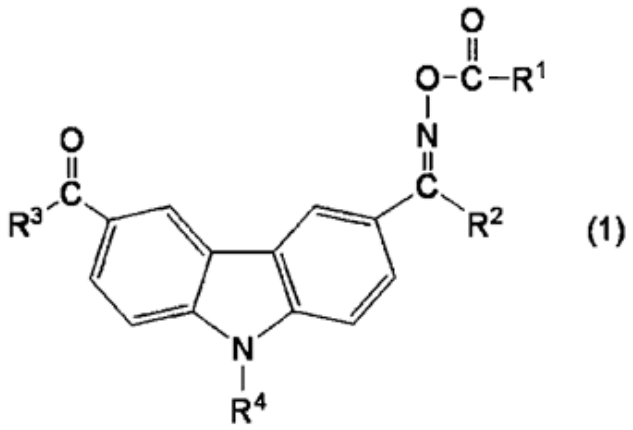
What is claimed is:

[Claim 1]

A photosensitive colored composition comprising (A) a coloring agent, (B) an alkali-soluble resin, (C) a radically polymerizable compound, and (D) a photopolymerization initiator,

wherein (D) the photopolymerization initiator comprises an oxime ester compound represented by following general formula (1).

[Formula 1]



(1)

[In general formula (1), R1, R2 and R4 each independently represent a linear, branched or annular alkyl group or aryl group, and R3 represents an aryl group substituted with a heterocyclic group.]

Overview of the description

In order to improve color reproduction characteristics of color filters, it is necessary to increase the content of a coloring agent in a photosensitive colored composition. However, by increasing the content of a coloring agent, a problem in which the sensitivity and the resolution are lowered occurred.

The present invention is to provide photosensitive colored compositions which have high sensitivity and high resolution even in a case where the content of a coloring agent is high, and are suitable for producing color filters.

In the detailed description of the invention, it is stated that in respect of obtaining sufficient color reproduction characteristics, the content of a coloring agent is preferably 20 wt.% or more based on the total solid content of the photosensitive colored composition.

In examples of the detailed description of the invention, the photosensitive colored composition comprising 20 wt.% or more of a coloring agent, an alkali-soluble resin, a radically polymerizable compound, and a photopolymerization initiator corresponding to an

oxime ester compound represented by general formula (1), is specifically stated, and the experimental result that the photosensitive colored composition has excellent sensitivity and resolution is also stated. In comparative examples, the photosensitive colored composition comprising 20 wt.% or more of a coloring agent, an alkali-soluble resin, a radically polymerizable compound, and a photopolymerization initiator not corresponding to an oxime ester compound represented by general formula (1), is specifically stated, and the experimental result that the photosensitive colored composition has less sensitivity and resolution than those of examples is also stated.

An oxime ester compound represented by general formula (1) and expressed by Markush-form is within the scope to which the content disclosed in the detailed description of the invention can be expanded or generalized.

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement)

In a case where the content of the coloring agent is low, since the problem of "improving color reproduction characteristics" can be solved, it is thought at first glance that the invention claimed in claim 1 not specifying that a sufficient content (20 wt.% or more) of the coloring agent is contained includes a scope in which the problem can be solved and does not satisfy Support Requirements.

However, since it is shown that the photosensitive colored compositions of examples have more excellent sensitivity and resolution than the photosensitive colored compositions of comparative examples, a person skilled in the art can understand that blending the photopolymerization initiator corresponding to the oxime ester compound represented by general formula (1) is a solution for the problem to be solved in which "the sensitivity is lowered and the resolution is deteriorated."

Further, in a technical field relating to photosensitive colored compositions, in light of the common general knowledge as of the filing that lower content of the coloring agent is generally advantageous with respect to sensitivity and resolution, there is no specific reason that the content disclosed in the detailed description of the invention can neither be expanded nor generalized to the case where the content of the coloring agent is low (less than 20 wt.%).

Therefore, in claim 1, the invention within the scope stated in the detailed description of the invention so as to enable a person skilled in the art to understand that the problem to be solved by the invention can be solved, is stated, and claim 1 satisfies Support Requirements.

[Case 21]

Title of Invention

Composition for emission layer of organic EL element

What is claimed is:

[Claim 1]

A composition for a luminescent layer of an organic EL element comprising an organometallic complex represented by L2MX,

wherein L and X are different monoanionic bidentate ligands, M is Ir, the L ligand is coordinated with M via sp2 hybrid carbon and nitrogen atoms, and the X ligand is a O-O ligand or N-O ligand.

Overview of the description

In the detailed description of the invention, a problem to be solved by the invention is not clearly stated. It is stated that, as prior art, it has been known that phosphorescent material theoretically shows high emitting efficiency, but on the other hand, few organometallic compound to phosphoresce at room temperature is confirmed are present, and Ir(ppy)3 has been well-known as the organometallic compound. (It was known that, at the time of the filing date, emitting efficiency of organic EL elements containing Ir(ppy)3 in a luminescent layer is about 8% though it is not stated in the detailed description of the invention.)

In the detailed description of the invention, it is stated that an organometallic complex represented by L2MX is different from the organometallic compound known at the time of the filing date. A theory and a mechanism of how to phosphoresce, in a case where various organometallic complexes represented by L2MX are used in a luminescent layer of an organic EL device, are explained. Further, specific examples of ligands L and X to be adapted are sufficiently stated.

In examples, it is stated that the organic EL element containing an organometallic complex BTIr represented by L2MX in a luminescent layer had high emitting efficiency (12%).

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement)

In examples, the organometallic complex BTIr is only stated as a compound having higher emitting efficiency than Ir(ppy)3 whose emitting efficiency when applying to a luminescent layer of the organic EL element is about 8%. At first glance, it is thought that:

the problem of the invention is to "exhibit higher emitting efficiency than that of compounds known before the filing date; the invention claimed in claim 1 in which the organometallic complex represented by L2MX is only specified includes a scope in which the problem cannot be solved; and the invention claimed in claim 1 does not satisfy Support Requirements.

However, since a problem to be solved by the invention is not clearly stated in the detailed description of the invention, the problem to be solved by the invention should be identified in light of the common general knowledge of a person skilled in the art at the time of the filing date (as to the common general knowledge of a person skilled in the art at the time of the filing date, see the following column of "Supplementary Explanation").

In the detailed description of the invention, it is explained that the invention comprises compositions capable of being used as luminescent layers of organic EL elements and is different from the organometallic compound known at the time of the filing date. In light of the common general knowledge, it is found that obtaining new organometallic compounds to phosphoresce when used in a luminescent layer of an organic EL element is a technical problem to be solved as of the filing date.

On the other hand, in the detailed description of the invention, the emitting efficiency in prior art using organometallic complexes such as $Ir(ppy)_3$ and the reason for exhibiting emitting efficiency equal to or higher than that of the complexes in prior art are not specifically stated. It is not found that in the description, the present invention comprises compositions exhibiting higher luminous efficiency than the compositions known before the filing date. Even if the organometallic complex BTIr was prepared in examples whose emitting efficiency is higher than that of $Ir(ppy)_3$ whose emitting efficiency is 8%, it is not found that a problem to be solved by the invention is to exhibit higher luminous efficiency than compounds known before the filing date.

Thus, it is found that a problem to be solved by the invention is to "obtain new organometallic compounds to phosphoresce when used in a luminescent layer of an organic EL element".

All organometallic complexes stated in claim 1 are identified as complexes to phosphoresce when used in a luminescent layer of an organic EL element with the statement of the detailed description of the invention. Therefore, since the invention which a person skilled in the art can understand that a problem to be solved by the invention can be solved is claimed in claim 1, claim 1 satisfies Support Requirements.

(Supplementary Explanation)
[Common general knowledge]

Theoretically, by using organometallic compounds to phosphoresce as luminescent material in a luminescent layer, regardless of being capable of improving the liminous efficiency of an organic EL device, there have been known few organometallic compounds which can be used as luminescent material in a luminescent layer among a quite lot of

organometallic compounds.　Further, these organometallic compounds have had low EL efficiency except for one compound of $Ir(ppy)_3$.

[Case 22]

Title of Invention

Image forming apparatus

What is claimed is:

[Claim 1]

An image forming apparatus comprising:

a rotary developing unit capable of mounting a plurality of developer cartridges containing developer in a removable manner, the rotary developing unit making the developer cartridges rotate about a rotational axis to move one of the mounted developer cartridges to a developing position;

a driving motor configured to make the rotary developer unit rotate; and

a control means for controlling torque of the driving motor depending on a remaining amount of the developer of the developer cartridges mounted on the rotary developer unit.

Overview of the description

[Problem to be Solved by the Invention]

In an image forming apparatus 10 including the rotary developing unit, formation of a multicolor image is carried out by attaching and arranging a necessary quantity of developer cartridges (12K, 12Y, 12M, 12C) containing developer used for color printing on a color-by-color basis around the rotational axis of the rotary developer unit, and making the cartridges be rotated and switched to the developing position in turn to form a toner image on a photoreceptor 16 (refer to the drawing).

In a conventional image forming apparatus, the driving motor of a rotary developer unit is set to the maximum torque required for rotating the rotary developer unit and is driven at a fixed torque. However, there is a problem that, depending on a state of the rotary developer unit, noise is caused at the time of rotation of the rotary developer unit due to excess torque given to the rotary developer unit, causing uncomfortable feeling to a user.

In view of such actual conditions, an objective of the present invention is to provide an image forming apparatus that reduces occurrence of noise caused at the time of rotation of a rotary developer unit, and, at the same time, prevents occurrence of insufficient rotation in the rotary developer unit.

[Description of Embodiments]

Torque required for rotating a rotary developer unit is determined by the number of mounted developer cartridges on the rotary developer unit and their mounting positions mainly. The torque is influenced, not only by the number of mounted developer cartridges on the rotary developer unit and mounting positions, but also by a remaining amount of a developer in developer cartridges mounted on the rotary developer unit and acceleration and

deceleration of the rotary developer unit. For this reason, it is desirable that torque of a driving motor of a rotary developer unit determined based on the number of developer cartridges mounted on the rotary developer unit and their mounting positions be corrected according to a remaining amount of a developer in the developer cartridges mounted on the rotary developer unit and acceleration and deceleration of the rotary developer unit so as to control torque of the driving motor more accurately.

Therefore, in the present invention, torque of the driving motor of a rotary developer unit is controlled based on the following procedures (1) to (5).

(1) Detect the number of mounted developer cartridges on the rotary developer unit and their mounting positions to obtain standard torque T (X, θ).

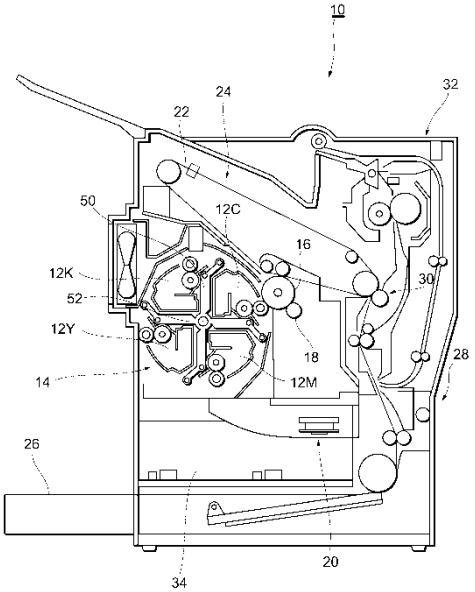
(2) Detect a remaining developer amount W in the developer cartridges mounted on the rotary developer unit to obtain a correction coefficient K(W) for the standard torque T(X, θ).

(3) Detect an acceleration A of the rotary developer unit to obtain a correction coefficient C(A) for the standard torque T(X, θ).

(4) Calculate, by the control means, torque to be given to the driving motor of the rotary developer unit based on the following formula (1).

$$T(X, \theta, W, A) = K(W) \cdot T(X, \theta) + C(A) \quad \ldots (1)$$

(5) Give the driving motor of the rotary developer unit the calculated torque successively.



[Overview of Reason for Refusal]

No reason for refusal

[Remarks]
- Article 36(6)(i) (Support Requirement)

It is specified, in claim 1, that torque given to the driving motor of a rotary developer unit is controlled depending on a remaining amount of a developer in developer cartridges mounted on the rotary developer unit. On the other hand, in the detailed description of the invention, there is stated a method to control torque to be given to the driving motor of the rotary developer unit by using a standard torque determined based on the number of mounted developer cartridges on the rotary developer unit and their mounting positions, a correction factor determined based on a remaining developer amount in the developer cartridges mounted on the rotary developer unit, and a correction factor determined based on acceleration and deceleration of the rotary developer unit, and by correcting the standard torque by the formula (1).

In an image forming apparatus stated specifically in the detailed description of the invention, a remaining amount of a developer agent in developer cartridges mounted on the rotary developer unit is used as one of attributes to correct standard torque by formula (1). However, on the occasion of setting torque given to the driving motor of the rotary developer unit, how to use each of various attributes that contribute to a suitable value of the torque is just a matter that can be determined by a person skilled in the art considering control accuracy and the like of the torque needed for the image forming apparatus accordingly. Therefore, it cannot be said that the invention stated in the detailed description of the invention as an invention that can solve the problem is limited to an image forming apparatus that uses a remaining amount of a developer in developer cartridges mounted on the rotary developer unit by applying it to formula (1).

Accordingly, it is obvious for a person skilled in the art that, by controlling torque given to the driving motor of the rotary developer unit, not necessarily by formula (1), but according to a remaining amount of a developer in developer cartridges mounted on the rotary developer unit as one of attributes that contributes to a suitable value of the torque, rotational drive of the rotary developer unit can be made to be suitable.

Therefore, it can be said that, in the detailed description of the invention, a method to control torque of the driving motor that makes the rotary developer unit rotate according to a remaining amount of a developer in developer cartridges mounted on the rotary developer unit is stated in a manner that a person skilled in the art can recognize that the method functions effectively for the problem to be solved by the invention of providing an image forming apparatus that reduces occurrence of noise generated at the time of rotation of the rotary developer unit while preventing occurrence of insufficient rotation of the rotary developer unit. As a result, it can be also said that the solution for the problem to be solved by the invention that is stated in the detailed description of the invention is reflected in claim 1.

From the above, the invention claimed in claim 1 is an invention stated in the detailed description of the invention, and the present application complies with the Support Requirement.

[Case 23]

Title of Invention

Catalysts consisting of high silica zeolite

What is claimed is:

[Claim 1]

A catalyst consisting of a zeolite which has a chemical composition of, in a molar ratio of an oxide, $M_2O:SiO_2:Al_2O_3$ = x:y:1 (where, M represents a hydrogen atom or an alkali metal atom, and x and y satisfy the relations of 0.95 ・ x ・ 1.05 and y ・ ・ 7, respectively), and has peaks in positions of diffraction angles of 2θ=θ1, θ2 andθ3 in an X-ray diffraction pattern when irradiated with a CuKα ray, wherein each of the peak intensities I2 and I3 of diffraction angles of 2θ = θ2 and θ3 satisfy 5 ・ I2 ・ 25 and 20 ・ I3 ・ 40 when the peak intensity of the diffraction angle of 2θ =θ1 is I1=100.

Overview of the description

The present invention relates to zeolite catalysts having a unique X-ray diffraction pattern and a molar ratio of SiO_2/Al_2O_3 of 7 or more.

A problem to be solved by the invention is to provide new zeolite catalysts having a unique and unknown X-ray diffraction pattern and a molar ratio of SiO_2/Al_2O_3 of 7 or more.

The zeolite catalysts of the present invention can be used as conversion catalysts of hydrocarbon in various conversion reactions of hydrocarbon, such as hydrocracking, isomerization, aromatization and alkylation.

[Examples]

It is stated that a zeolite which satisfies a chemical composition and an X-ray diffraction pattern according to claim 1 was prepared and the zeolite was used as a catalyst in a hydrocracking reaction of hydrocarbon oil.

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement)

A problem to be solved by the invention which is logically understood taking into consideration the common general knowledge at the time of filing is to provide new zeolite catalysts useful as catalysts, and having a unique and unknown X-ray diffraction pattern and a molar ratio of SiO_2/Al_2O_3 of 7 or more.　Although, in examples, zeolite catalysts of the present invention were only used in a hydrocracking reaction of hydrocarbon oil, said problem is a problem to be solved regardless of reactions in which the catalysts are to be used.

Thus, in light of the statement in the description as described above, the invention claimed in claim 1 does not exceed the extent of disclosure in the description to which a person skilled in the art would recognize that a problem to be solved by the invention would actually be solved, even in a case where reactions in which the catalysts are to be used and uses of the catalysts are not specified.　Therefore, there is no reason for refusal involving a violation of Support Requirement that the invention claimed in claim 1 does not specify reactions in which the catalysts are to be used and uses of the catalysts.

When a reaction which cannot be expanded or generalized in light of the common general knowledge at the time of filing is indicated in the description or claims, and when it is determined that the problem to be solved by the invention understood by the statement in the description and the common general knowledge at the time of filing cannot be solved, there is reason for refusal involving a violation of Support Requirement.

[Case 24]

Title of Invention

Porous catalysts

What is claimed is:

[Claim 1]

A porous catalyst consisting of a porous metal support having an average pore size of 50-100 μm and a metal catalyst layer which is formed on a surface of the porous metal support and has a thickness of 0.5-5 μm.

Overview of the description

[Technical Field]

The present invention relates to porous catalysts used for steam reforming and exhaust gas purification.

[Background Art]

In the past, in order to improve catalysis by increasing the contact area of catalyst components dispersed and supported on the surface of supports and the reactant, there have been provided catalysts in which a metal catalyst is supported on a ceramic support having a honeycomb structure, and catalysts in which a wash coat layer made of ceramic material is formed on a metal honeycomb support obtained by processing metal foil in a honeycomb structure and a metal catalyst is supported on the wash coat layer. These catalysts have been used for steam reforming and exhaust gas purification.

However, these catalysts have problems in that durability is deteriorated with less adhesiveness between ceramics and metal catalysts, these catalysts occupy large space with a honeycomb structure, and rapid rise in temperature is difficult since ceramic material having low heat conductivity is used as a support or a wash coat layer.

[Problem to be Solved by the Invention]

A problem to be solved by the invention is to provide catalysts having high durability while being small in size, and excellent temperature rise characteristics.

[Solution for the Problem to be Solved]

The applicant found that a porous metal support having an average pore size of 50-100 μm is used as a support of a metal catalyst, a metal catalyst layer having a thickness of 0.5-5 μm is formed on a surface on the support, and thus a catalyst having high durability while being small in size and excellent temperature rise characteristics is obtained. By making both materials of the porous metal support and catalyst layer are metal, bonding strength between the porous metal support and catalyst layer and the durability of the catalyst

are improved. By setting the thickness of the metal catalyst layer to 0.5-5 μm, the porosity is maintained without sealing pores of the porous metal support having an average pore size of 50-100 μm, and high specific surface area of the metal catalyst is secured. Further, by using metal material having high heat conductivity as the support and forming a metal catalyst layer on the outer surface of the porous metal support and the inner surface of the pores, temperature can be raised rapidly.

[Examples]

It is stated that a steam reforming test for methanol was carried out using a catalyst in which a Cu-Zn alloy layer having a thickness of 3 μm is formed on a surface of a porous stainless support by electroplating, and then the measurement result that hydrogen could be stably produced from methanol in a long period of time with high durability of the catalyst could be obtained.

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement)

The problem to be solved by the invention is to provide catalysts having high durability while being small in size, and having excellent temperature rise characteristics. The problem is not a problem peculiar to specific catalyst reactions and uses of the catalysts, but a general problem common in the whole field of catalyst reactions using metal catalysts and uses of catalysts. Although, in examples, only a result when the catalyst of the present invention was used in a steam reforming reaction of methanol was stated, a person skilled in the art can understand that the problem can be solved even in a case where the catalyst of the invention is used in other catalyst reactions and uses of the catalyst.

Thus, in light of the statement in the description and the common general knowledge at the time of filing, the invention claimed in claim 1 does not exceed the extent of disclosure in the description to which a person skilled in the art would recognize that a problem to be solved by the invention would actually be solved, even in a case where reactions in which the catalysts are to be used and uses of the catalysts are not specified.

Therefore, there is no reason for refusal involving a violation of Support Requirement that the invention claimed in claim 1 does not specify reactions in which the catalysts are to be used and uses of the catalysts.

[Case 25]

Title of Invention

Radar apparatus

What is claimed is:

[Claim 1]

A radar apparatus comprising: a first means for measuring reflection intensity of a horizontally-polarized wave; and a second means for measuring reflection intensity of a vertically-polarized wave, wherein, based on values obtained by said first means and said second means, a size of a liquid particle is estimated.

[Claim 2]

A radar apparatus comprising: a first means for measuring reflection intensity of a horizontally polarized wave; and second means for measuring reflection intensity of a vertically polarized wave, wherein, based on values obtained by said first means and said second means, a size of a rainfall drop is estimated.

Overview of the description

The present invention relates to a dual polarization radar apparatus to transmit and receive a horizontally and a vertically polarized wave.

Since an amount of rainfall is related to the size of a rainfall drop, a method to estimate the size of a particle accurately so as to estimate an amount of rainfall with a high degree of accuracy has been desired. An object of the present invention is to estimate the size of a particle accurately using a radar apparatus.

In an example, first, there is stated that the shape of a rainfall drop is estimated using a fact that there is a correlation between reflection intensity of each polarized wave and the shape of a particle. Next, there is stated that, using a fact that the larger a particle is, the large an air resistance when falling in the air becomes to make it be of a flat shape, the size of a rainfall drop from estimated form/shape is estimated.

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement), Article 36(4)(i) (Enablement Requirement): claim 1

It is a shape of a particle that can be directly estimated by a radar apparatus transmitting and receiving a horizontally-polarized wave and a vertically-polarized wave. Generally, it is common general knowledge as of the filing that there is no relation between the size and the shape of a particle at all. Then, from the statement of the detailed description of the invention, it is grasped only a matter that, as to only a liquid particle falling in the air, the size can be estimated from the shape. Consequently, there is found out no ground for expanding or generalizing the content stated in the detailed description of the

invention to the scope of the invention according to claim 1 that does not specify that a liquid particle falls in the air.

Accordingly, the invention according to claim 1 exceeds the scope stated in the detailed description of the invention.

Furthermore, even if the above-mentioned statements of the detailed description of the invention and the common general knowledge as of the filing are considered, a person skilled in the art cannot understand how to work the invention about a case except for the case where a liquid particle falls in the air.

Therefore, the detailed description of the invention is not stated clearly and sufficiently to a degree that a person skilled in the art can work the invention according to claim 1.

[Remarks]

It is obvious that, even if it is a particle having no relation with a rainfall phenomenon, when it complies with at least the two conditions of

(a) a particle falling in the air

(b) being made up of liquid

a size can be estimated on the same principle as that of the disclosure content of the detailed description of the invention.

The statement of claim 1 complies with (b), but does not satisfy (a).

[Measures of the applicant]

The reason for refusal is resolved by amendment to delete claim 1 and leave only claim 2. The reason for refusal is also resolved by amending claim 1 such that "liquid particle" is changed to "a liquid particle falling in the air", for example.

[Case 26]

Title of Invention

Radar

What is claimed is:

[Claim 1]

A radar configured to:

transmit and receive a radio wave by an antenna;

discriminate a reflected wave of a target and an unnecessary reflected wave in a range from a short distance to a long distance based on signal intensity of a received radio wave; and

calculate a distance to the target based on a round trip time of the reflected wave of the target having been discriminated.

[Claim 2]

A radar configured to:

transmit and receive a radio wave by an antenna;

for signal intensity of a received radio wave, discriminate a reflected wave of a target and an unnecessary reflected wave in a range from a short distance to a long distance based on a signal intensity threshold attenuating according to a distance; and

calculate a distance to the target based on a round trip time of the reflected wave of the target having been discriminated.

Overview of the description

[Conventional Technology]

A fixed threshold is used, and intensity less than the threshold is discriminated as an unnecessary reflected wave, and intensity larger than the threshold as a reflected wave from the target.

[Problem to be Solved by the Invention]

However, there is a problem that, because signal intensity of an unnecessary reflected wave becomes larger as a distance of the unnecessary reflected wave to the source becomes shorter, a target cannot be detected if the threshold is adjusted to unnecessary reflected waves of a short distance (Fig. 1), and, false detection is caused in a short distance if the threshold is adjusted to a target of a long distance (Fig. 2).

[Description of Embodiments]

By setting a threshold $f(r) = a \cdot 1/r^4 + b$, (a, b are coefficients) that is optimum according to a distance using an attenuation property of signal intensity of a radio wave $a \cdot 1/r^4$ (a is a coefficient) that attenuates in accordance with a distance r, it becomes possible to remove

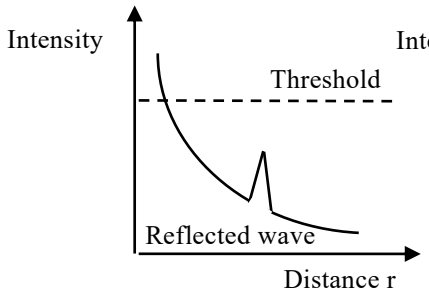
unnecessary reflected waves in a short distance and detect a target in a long distance (Fig. 3). Meanwhile, the threshold is not needed to be a threshold by a curved line approximation such as f(r) necessarily if it is a threshold that attenuates in accordance with a distance, and even a threshold having an attenuation property approximated by straight lines enables excellent discrimination of unnecessary reflected waves in comparison with the conventional one, for example.

[Premise]

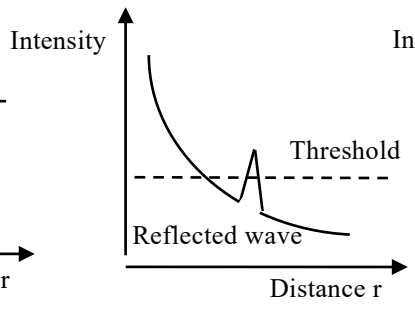
Distance calculation (c・t/2) based on a round trip time t of a radio wave is a well-known commonly used art (c is the light speed).

Drawing

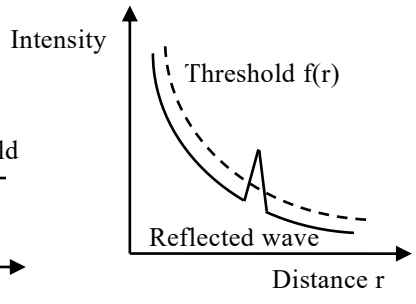
[Fig. 1]



[Fig. 2]



[Fig. 3]



[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement): claim 1

In the detailed description of the invention, although specific discrimination of unnecessary reflected waves using an attenuating signal intensity threshold is stated, other discrimination of unnecessary reflected waves that only uses signal intensity is not stated. Therefore, even if the common general knowledge as of the filing and the like is taken into consideration, when only signal intensity is used, there is caused a problem that a long distance target is failed to be detected while unnecessary reflected waves in a short distance can be discriminated and removed, or false detection of unnecessary reflected waves of a short distance is caused while a long distance target can be detected as shown in Figs. 1 and 2, and, thus, it is not understood that reflected waves from a target and unnecessary reflected waves can be discriminated in both a short distance and a long distance. As a result, claim 1 cannot be expanded or generalized from the original description.

In addition, in the detailed description of the invention, there is stated the to-be-solved problem of discriminating reflected waves of a target and unnecessary reflected waves in a range from a short distance to a long distance, and there is also stated the means for solving the problem of using an attenuating signal intensity threshold. On the other hand, in claim 1, just discrimination of unnecessary reflected waves using only signal intensity is prescribed. Therefore, even if the common general knowledge as of the filing and the like

is taken into consideration, if only signal intensity is used, there is caused a problem that a long distance target cannot be detected while unnecessary reflected waves in a short distance can be discriminated and removed, or false detection of unnecessary reflected waves of a short distance is caused while a long distance target can be detected as shown in Figs. 1 and 2, and, thus, it is not understood that reflected waves from a target and unnecessary reflected waves can be discriminated in both a short distance and a long distance. As a result, it is obvious that the problem to be solved by the invention cannot be solved, and, consequently, it cannot be said that means for solving the problem is reflected in claim 1.

- Article 36(4)(i) (Enablement Requirement): claim 1

Although the aspect of specific discrimination of unnecessary reflected waves using an attenuating signal intensity threshold is stated and it can be worked, other discrimination of unnecessary reflected waves that only uses signal intensity is not stated. Therefore, even if common general knowledge as of the filing and the like is taken into consideration, if only signal intensity is used, there is caused a problem that a long distance target cannot be detected while unnecessary reflected waves in a short distance can be discriminated and removed, or false detection of unnecessary reflected waves of a short distance is caused while a long distance target can be detected as shown in Figs. 1 and 2, and, thus, it is obvious that reflected waves from a target and unnecessary reflected waves cannot be discriminated properly in both a short distance and a long distance. As a result, the invention according to claim 1 cannot be worked ("Examination Guidelines Part II Chapter 1 Section 1 Enablement Requirement 3.2.2(1)).

[Measures of the applicant]

If claim 1 is deleted, both of the reasons for refusal are resolved.

(Supplementary Explanation)

Regarding the portion of "calculate a distance to the target based on a round trip time of a radio wave", even if it uses expression of "based on", a person skilled in the art can understand that calculation is possible by the expression of $c \cdot t/2$ from common general knowledge that distance calculation using a round trip time of a radio wave is well-known commonly used art, and, thus, working is possible, and also the Support Requirement is satisfied.

[Case 27]

Title of Invention

Display device

What is claimed is:

[Claim 1]

A display device, comprising:

a display panel;

a circuit substrate;

a connector mounted on said circuit substrate;

a flexible wiring substrate attached to said connector; and

a housing configured to house said display panel, said circuit substrate, and one part of said flexible wiring substrate,

wherein said housing includes a slit to allow an other part of said flexible wiring substrate to be extracted, and

wherein said flexible wiring substrate extends in a direction intersecting with a direction of extraction from said slit, and includes, in said one part of said flexible wiring substrate, a first area having a width larger than a width of said flexible wiring substrate in a position overlapping with said slit.

Overview of the description

There is known a structure in which a connector is mounted on a circuit substrate of a liquid crystal display device, and a flexible wiring substrate (FPC) is attached to the connector detachably. In the conventional structure, a housing covers the circuit substrate. However, just by covering the flexible wiring substrate by the housing, if stress such as pulling the flexible wiring substrate is added and the connector comes off, the flexible wiring substrate cannot be attached to the connector again unless the housing is opened. The present invention has an object to protect a flexible wiring substrate while preventing the flexible wiring substrate from coming off from a connector.

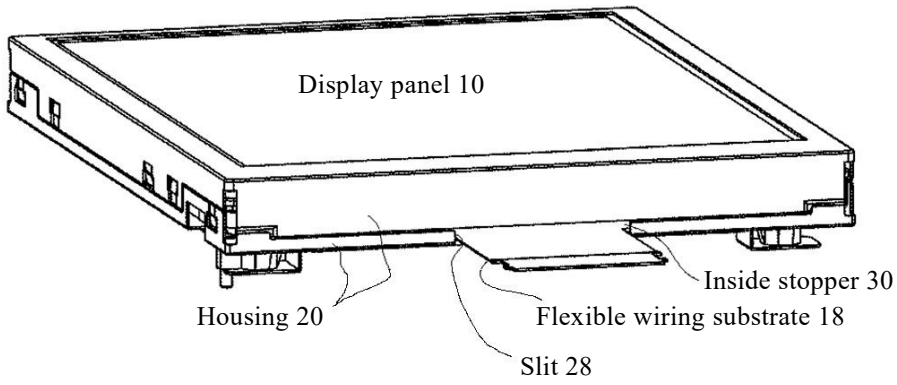
As shown in Fig. 1, a display device includes a housing 20. The housing 20 houses a display panel 10, a circuit substrate and a part of a flexible wiring substrate 18. In the housing 20, there is formed a slit 28, and, from this slit 28, a part of the flexible wiring substrate 18 is being extracted.

As shown in Fig. 2, the flexible wiring substrate 18 includes an inside stopper 30. The inside stopper 30 is arranged adjacent to the slit 28 and in the side where the flexible wiring substrate 18 is covered by the housing 20, and extends in both directions intersecting with the direction of extraction of the flexible wiring substrate 18 from the slit 28. The width of a part of the flexible wiring substrate 18 extracted to outside from the slit 28 is

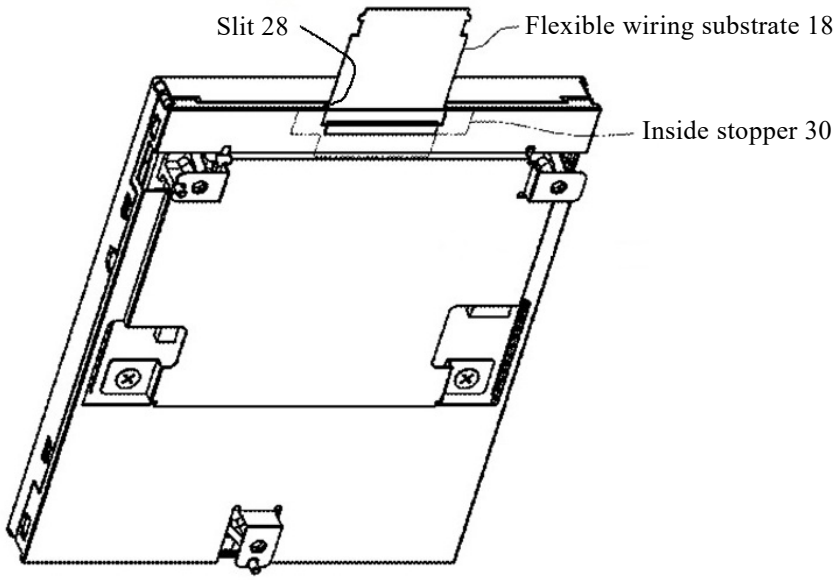
narrower than the length of the slit 28 so that it can pass through the slit 28. In contrast, the width of the inside stopper 30 (the length of the flexible wiring substrate 18 in a direction intersecting with the direction of extraction from the slit 28) is made to be larger than the length of the slit 28. That is, the inside stopper 30 is an area having a width that is larger than the width of the flexible wiring substrate 18 in the position overlapping with the slit 28, and is formed in the side covered by the housing 20 of the flexible wiring substrate 18. Therefore, the inside stopper 30 prevents the flexible wiring substrate 18 from coming off from the slit 28 toward the outside direction.

Drawing

[Fig. 1]



[Fig. 2]



[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement)

As is stated in the detailed description of the invention, the problem to be solved by the claimed invention is "to protect a flexible wiring substrate while preventing the flexible wiring substrate from coming off from a connector".
In the detailed description of the invention, it is stated that "in contrast, the width of the inside stopper 30 (the length of the flexible wiring substrate 18 in a direction intersecting with the direction of extraction from the slit 28) is made to be larger than the length of the slit 28", and, thus, in the detailed description of the invention, the problem to be solved by the invention of "to prevent the flexible wiring substrate from coming off from the connector" is being solved by making the width of the inside stopper 30 (the first area) be larger than the length of the slit 28.

However, in claim 1, there is only stated that "said flexible wiring substrate extends in a direction intersecting with a direction of extraction from said slit, and includes, in said one part of said flexible wiring substrate, a first area having a width larger than a width of said flexible wiring substrate in a position overlapping with said slit", there is no statement about relation between the width of the flexible wiring substrate and the length of the slit. It is obvious that, even if the width of the first area of the flexible wiring substrate is larger than the width of the flexible wiring substrate in the position overlapping with the slit, if the width of the first area of the flexible wiring substrate is narrower than the length of the slit, the above-mentioned problem to be solved by the invention is not solved, and, thus, it cannot be said that the above-mentioned solution for the problem to be solved by the invention is reflected on the invention according to claim 1.

Accordingly, the invention according to claim 1 exceeds the scope stated in the detailed description of the invention.

[Measures of the applicant]

If it is specified that the width of the first area is larger than the length of the slit by amending the claim, both of the reasons for refusal are resolved.

For example, if amended as follows, the reasons for refusal are resolved.

[Claim 1]

A display device, comprising:
a display panel;
a circuit substrate;
a connector mounted on said circuit substrate;
a flexible wiring substrate attached to said connector; and
a housing configured to house said display panel, said circuit substrate, and one part of said flexible wiring substrate,
wherein said housing includes a slit to allow an other part of said flexible wiring

substrate to be extracted,

wherein said flexible wiring substrate extends in a direction intersecting with a direction of extraction from said slit, and includes, in said one part of said flexible wiring substrate, a first area having a width larger than a length of said slit .

[Case 28]

Title of Invention

Method for installing sewage treatment apparatus

What is claimed is:

[Claim 1]

A sewage treatment apparatus installation method for installing a sewage treatment apparatus on a passenger boat, the method comprising installing said sewage treatment apparatus in a non-public area.

Overview of the description

In the future, it is made obligatory to install a sewage treatment apparatus on a passenger boat. Therefore, a problem to be solved is to provide an installation method suitable for installing a sewage treatment apparatus on a passenger boat.

When installing a sewage treatment apparatus on a passenger boat, it is conceivable that the apparatus is installed in the engine room to which passengers are allowed only a limited access and which is equipped with a lot of equipment. However, because, in the engine room of a passenger boat, only a minimal open space for a security purpose is remained, there is a problem that large-scaled renovation is necessary for making it possible to install a sewage treatment apparatus in the engine room.

On the other hand, a steering gear room unsuitable for installation of equipment due to severe vibration has enough open spaces. Meanwhile, by focusing attention on a phenomenon that an intensive vibration reduces a processing time when processing sewage water in a sewage treatment apparatus, it has been discovered that a steering gear room where an open space can be easily found and its intensive vibration can be utilized is optimum as an installation location of a sewage treatment apparatus.

Furthermore, because a steering gear room is a non-public area, it also has an advantage that odor from a sewage treatment apparatus will not be a problem.

[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(i) (Support Requirement)

The problem to be solved of installing a sewage treatment apparatus without large-scaled renovation can be found, and an engine room that is a non-public area is not suitable compared with a steering gear room because large-scaled renovation is required when a sewage treatment apparatus is installed in the engine room. Therefore, it looks as if the invention according to claim 1 which does not specify an installation location to a steering

gear room and which includes a scope where the problem cannot be solved fails to meet the Support Requirement.

On the other hand, there is stated that, in the detailed description of the invention, "furthermore, because a steering gear room is a non-public area, it also has an advantage that odor from a sewage treatment apparatus will not be a problem". This advantage is stated as a secondary effect of a steering gear room, literally.

First, about a "public area", it is a clear technical matter for a person skilled in the art that it means an open space that can be accessed by a passenger freely. Then, it can be said that a person skilled in the art coming into contact with the above-mentioned statement does not understand that this effect is a particular effect by a steering gear room, and rather understands it as a common effect of a "non-public area" unrelated to a steering gear room.

As a consequence, it can be said that installation method to install in a non-public area is an installation method suitable for installing a sewage treatment apparatus in a passenger boat, in a point that odor from the sewage treatment apparatus does not become a problem. Then, the problem to be solved by the claimed invention is to provide an installation method suitable for installing a sewage treatment apparatus in a passenger boat, and, thus, the invention to try to solve the problem in question also includes, in addition to an optimum installation method for installing in a steering gear room, installation methods suitable for installing a sewage treatment apparatus in a passenger boat such as installing in a non-public area.

Accordingly, "non-public area" of the invention according to claim 1 is supported by the above-mentioned statement in the detailed description of the invention, and, therefore, the invention according to claim 1 complies with the Support Requirement.

[Case 29]

Title of Invention
Machining center

What is claimed is:
[Claim 1]
A machining center equipped with a bed made by casting, elastic body, metal plate, automatic tool changer arm, and tool magazine.
[Claim 2]
A machining center equipped with a bed made by casting, elastic body mounted on the lower part of said bed made by casting, metal plate mounted on the lower part of said elastic body, automatic tool changer arm, and tool magazine.

Overview of the description
The purpose of the present invention is to provide a machining center with vibration damping performance so as to prevent the vibrations that occur around the machining center from affecting the processing accuracy.

Examples disclose that a machining center, with an elastic body mounted on the lower part of the bed made by casting and a metal plate mounted on the lower part of the elastic body, exhibit high vibration damping performance. It is stated that both the elastic body and the metal plate serve as damping members.

[Overview of Reason for Refusal]
- Article 36(6)(i) (Support Requirement): claim 1

The detailed explanation of the invention states that the problem to be solved by the invention is to prevent the vibrations that occur around the machining center from affecting the processing accuracy. Examples show that this problem can be solved by mounting an elastic body on the lower part of the bed made by casting, and also mounting a metal plate on the lower part of the elastic body.

However, claim 1 cannot be regarded as reflecting anything about the means to solve the problem, such as the structural relationships of the elastic body and metal plate with other components.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

- Article 36(6)(ii) (Clarity Requirement): claim 1

Claim 1 does not define the structural relationships of the elastic body and metal plate with other components. Even by taking into account the statements of the description and drawings, as well as the common general knowledge as of the filing, the technical meanings

of the elastic body and metal plate (the functions or roles that these components play in the invention of claim 1) cannot be understood.

With regard to an invention relating to a machining center, it is common general knowledge as of the filing that the structural relationships of a particular component with other components greatly differ depending on the technical meaning of the relevant component, and in light of such common general knowledge, it is evident that matters to define the invention in claim 1 are deficient for understanding the structural relationships of the elastic body and metal plate with other components. In conclusion, the invention cannot be clearly identified from the statement of claim 1.

(Supplementary Explanation)

In light of the common general knowledge as of the filing, the technical meanings of some components of the invention, namely, "bed made by casting," "automatic tool changer arm," and "tool magazine," are obvious. However, in order to understand the technical meanings of the "elastic body" and the "metal plate," it is insufficient that the claim only states that the invention is equipped with these components. While it is possible to understand the roles that the elastic body and the metal plate play (as damping members) in the aforementioned examples, claim 1 does not define such structural relationships as those described in the examples, and therefore this limitative interpretation cannot be applied to the roles to be played by the elastic body and the metal plate in the invention of claim 1. Consequently, even by taking into account the statements of the description and drawings, the technical meanings of the elastic body and metal plate in the invention of claim 1 cannot be understood.

[Remarks]

Claim 2 describes that an elastic body is mounted on the lower part of the bed made by casting, and that a metal plate is mounted on the lower part of the elastic body, thereby reflecting the means to solve the problem. Thus, claim 2 satisfies the requirement of Article 36(6)(i).

Furthermore, since claim 2 defines the structural relationships of the elastic body and metal plate with other components, in light of the matters stated in the aforementioned examples, it can be understood that the elastic body and metal plate serve as damping members in the invention of claim 2. Thus, in light of the statements of the description and drawings, as well as the common general knowledge as of the filing, the technical meanings of the elastic body and metal plate can be understood, and the invention can be clearly identified from the statement of claim 2. Therefore, claim 2 satisfies the requirement of Article 36(6)(ii).

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 1 and

maintaining only claim 2.

[Case 30]

Title of Invention

Cellular-phone-handset desk-top holder

What is claimed is:

[Claim 1]

A cellular-phone-handset desk-top holder configured to receive a cellular phone handset including a geomagnetic sensor placed on the cellular-phone-handset desk-top holder, the cellular-phone-handset desk-top holder comprising a magnetic flux generation unit configured to generate magnetic flux to the cellular phone handset.

[Claim 2]

The cellular-phone-handset desk-top holder according to claim 1, wherein said magnetic flux generation unit weaken magnetization of said cellular phone handset by generating alternate attenuation magnetic flux to the cellular phone handset.

Overview of the description

An object of the present invention is to make manual calibration of a geomagnetic sensor mounted on a cellular phone handset unnecessary.

In an example, there is stated a cellular-phone-handset desk-top holder provided with a coil inside thereof. When detecting a cellular phone handset is placed on, this desk-top holder applies electrical current to the coil, and magnetic flux generated by the coil is supplied to the geomagnetic sensor mounted on the cellular phone handset. Next, reverse current is applied to the coil, and reverse magnetic flux is supplied to the geomagnetic sensor. Furthermore, a direction to apply current is changed alternately, and, along with this, applied current is gradually reduced. In this way, by making the coil generate alternate attenuation magnetic flux, and, concurrently, reducing magnetic flux, magnetization of a geomagnetic sensor mounted on a cellular phone handset is made to be in an approximately demagnetized state finally.

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement): claim 1

In the detailed description of the invention, there is stated, as the problem to be solved by the invention, to make manual calibration of a geomagnetic sensor mounted on a cellular phone handset unnecessary, and, as means for solving the problem, to provide a coil (magnetic flux generation unit) in the desk-top holder of the cellular-phone-handset, and, upon detecting placement of the cellular phone handset on the desk-top holder, to apply current of reverse directions alternately to the coil (magnetic flux generation unit) to generate alternate attenuation magnetic flux, thereby reducing magnetization of the geomagnetic sensor.

However, in claim 1, there is no prescription at all about magnetic flux generated by the magnetic flux generation unit.　For example, it is obvious that the problem to be solved by the invention cannot be solved if the magnetic flux generation unit is not a one that generates magnetic flux to reduce magnetization of a geomagnetic sensor.

Accordingly, it cannot be said that the solution for the problem to be solved by the invention is reflected in claim 1, and, thus, the invention according to claim 1 exceeds the scope stated in the detailed description of the invention.

[Measures of the applicant]

If, by amendment, the means for solving the problem stated in the detailed description of the invention is reflected in claim 1, the reason for refusal is resolved.

(Example 1)

[Claim 1]

A cellular-phone-handset desk-top holder configured to receive a cellular phone handset including a geomagnetic sensor placed on the cellular-phone-handset desk-top holder, the cellular-phone-handset desk-top holder comprising a magnetic flux generation unit to generate magnetic flux to reduce magnetization of the geomagnetic sensor.

(Example 2)

To amend such that claim 1 is deleted, and only claim 2 is remained.

[Case 31]

Title of Invention

Disposable diaper

What is claimed is:

[Claim 1]

A disposable diaper oriented in the longitudinal direction, equipped with a liquid-permeable front surface sheet (11), a liquid-impermeable back surface sheet (12), and a liquid-retaining absorber (13) made of material X that is inserted between said two sheets.

[Claim 2]

A disposable diaper as described in claim 1, which has a pair of folding means that make it easier to fold said absorber (13) in the longitudinal direction in the middle of the width of said disposable diaper.

[Claim 3]

A disposable diaper as described in claim 2, wherein said pair of folding means consists of the thinner parts or the smaller basis-weight parts formed on said absorber (13).

Overview of the description

The purpose of the present invention is to provide a disposable diaper that can be folded into a compact shape.

The present invention relates to a disposable diaper oriented in the longitudinal direction, equipped with a liquid-permeable front surface sheet 11, a liquid-impermeable back surface sheet 12, and a liquid-retaining absorber 13 made of material X that is inserted between said two sheets. It is shown that by forming a pair of folding means that make it easier to fold the liquid-retaining absorber made of material X, the width of the diaper when folded along the folding means can be made shorter, thereby making it possible to fold the diaper into a compact shape.

Examples show the diaper having, as the pair of folding means, (i) the thinner parts formed on absorber 13, and (ii) the smaller basis-weight parts formed on absorber 13.

Fig. 1

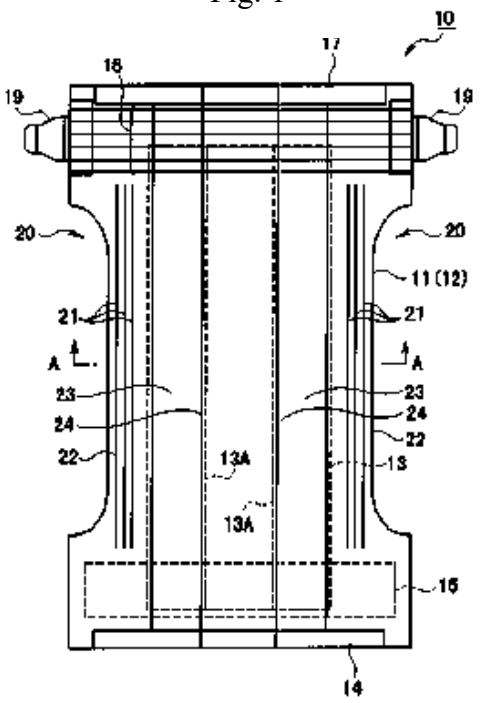
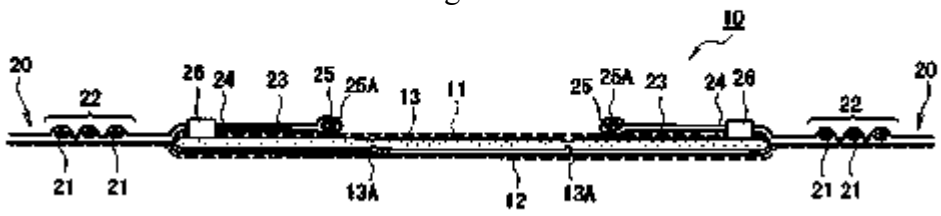


Fig. 2



[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement): claim 1

The detailed explanation of the invention states that the problem to be solved by the invention is to provide a disposable diaper that can be folded into a compact shape. As a solution for this problem, it discloses to form a pair of folding means that can make it easer to fold the liquid-retaining absorber made of material X in the longitudinal direction in the middle of the width of said diaper.

However, claim 1 does not define such folding means, that is, it does not reflect a solution for the problem.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

[Remarks]

In order to satisfy the requirement of Article 36(6)(i), it is not necessary for a claim to

directly reflect the folding means formed as the thinner parts or the smaller basis-weight parts on the absorber (as defined in claim 3), which are specifically disclosed in the detailed explanation of the invention.

Claim 2 reflects the matters in relation to the folding means formed on the absorber, which is the solution for the problem identified from the detailed explanation of the invention. Therefore, both Claims 2 and 3 satisfy the requirement of Article 36(6)(i).

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 1 and maintaining only Claims 2 and 3.

[Case 32]

Title of Invention

Musical sound data player

What is claimed is:

[Claim 1]

A musical sound data reproduction apparatus configured to perform loop reproduction of musical sound data, said musical sound data containing compressed data made by compressing a data size of integral multiple of a reproduction processing unit in reproduction of musical sound data and uncompressed data at an end portion, from a storage media storing said musical sound data, said musical sound data reproduction apparatus comprising:

a compressed data reading means;

an uncompressed data reading means;

a decoder configured to extend compressed data read by said compressed data reading means to output said extended data;

a switching means for switching output of said uncompressed data reading means and output of said decoder; and

a control means for controlling said uncompressed data reading means, said compressed data reading means, and said switching means,

wherein said control means executes

a first procedure to output a read command to said compressed data reading means, and to switch said switching means to output of said decoder, and

a second procedure to output, upon receiving a read end notification from said compressed data reading means, a read command to said uncompressed data reading means, and to switch said switching means to output of said uncompressed data reading means, in turn, and,

executes, upon receiving a read end notification from said uncompressed data reading means, said first procedure again.

Overview of the description

The present invention relates to a musical sound data reproduction apparatus to perform loop reproduction of compressed digital musical sound data from a storage media storing the compressed musical sound data.

When compressed digital musical sound data is loop-reproduced, it is arranged such that one frame is made to be 1152 samples for MPEG, or 1024 samples for AAC, for example, and reproduction processing is performed in units of such frame. On that occasion, there has been a problem that, if the final frame of a musical composition to be loop-reproduced does not include the prescribed number of samples, a silent portion is included at the end of the frame, causing a silent portion between musical compositions in

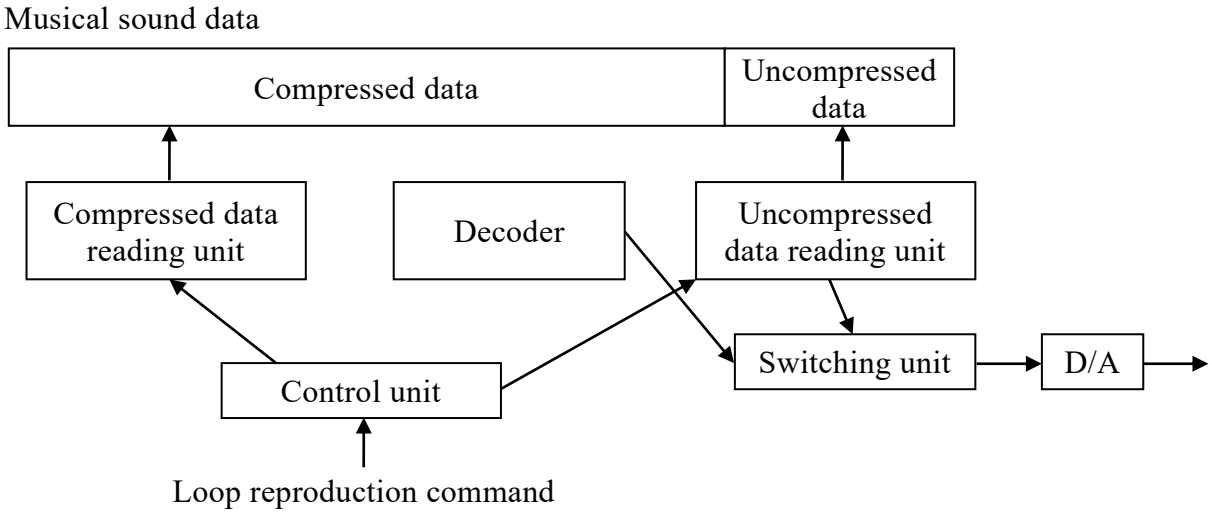
loop reproduction.

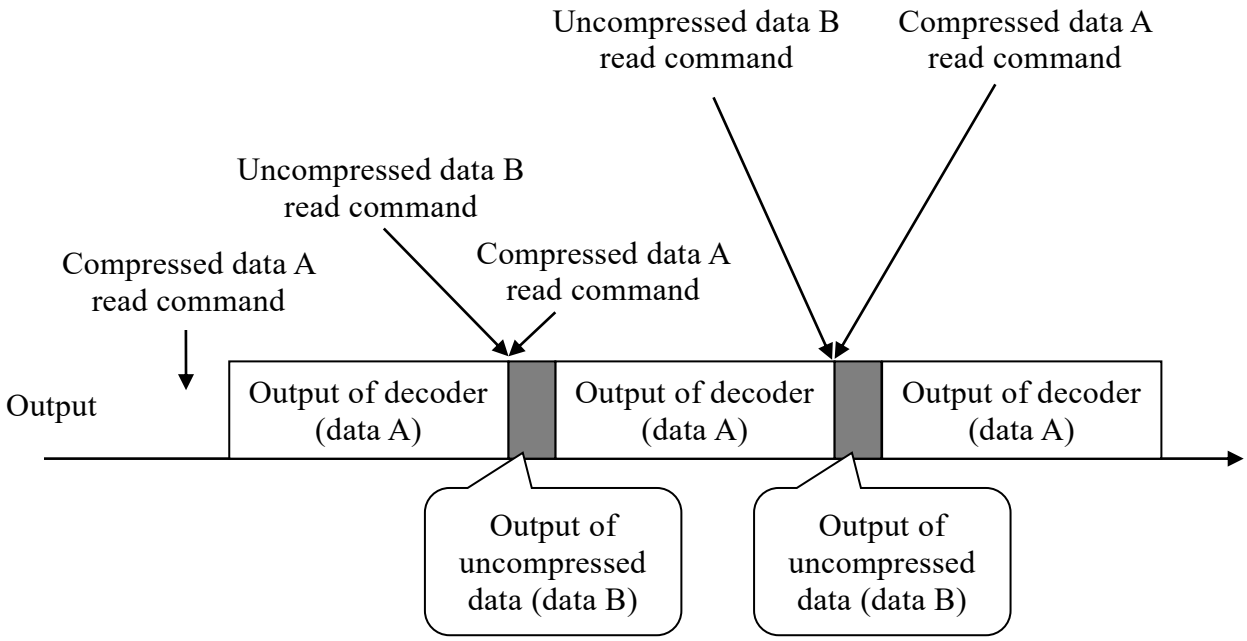
Therefore, the present invention has an object to prevent a silent portion from occurring between musical compositions in loop reproduction of compressed digital musical composition data.

In the detailed description of the invention, there is stated that: musical sound data is configured by compressed data and uncompressed data; data made by compressing samples of integral multiple of the number of samples in one frame and the remaining samples are stored in a storage medium as compressed data and uncompressed data, respectively, in this order; and a control unit 6 executes the following procedures 1 to 3 to read compressed data and uncompressed data of the musical sound data alternately.

When a command of loop reproduction is received, the control unit 6 outputs a read command for compressed data to a compressed data reading unit 2 (procedure 1), and switch a switching unit 4 to output of the decoder 3 (procedure 2). Upon receiving the read command, the decoder 3 performs extension and output of compressed data, and the extended musical sound data is output from a speaker through the switching unit 4. When, at the time that the compressed data has been read wholly, the compressed data reading unit 2 outputs a read end notification to the control unit 6, the control unit 6 outputs a read command for uncompressed data at the end portion to an uncompressed data reading unit 1, and switches the switching unit 4 to output of the uncompressed data reading unit 1 to make the uncompressed data reading unit output a musical composition based on the uncompressed data. At this time, the control unit 6 outputs a read command for compressed data again to the compressed data reading unit 2 (procedure 3).

By doing so, on the occasion of conducting loop reproduction by reading compressed data again subsequent to the uncompressed data, occurrence of a silent portion until the decoder 3 extends and outputs the first compressed data is prevented. Next, upon receiving a read end notification from the uncompressed data reading unit 1, the control unit 6 switch the switching unit 4 to output of the decoder 3, and outputs a musical composition based on compressed data again (procedure 2).





[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement type (4)):

A problem to be solved that is stated in the detailed description of the invention is to prevent a silent portion from occurring between musical compositions in loop reproduction of compressed digital musical sound data. Then, in the detailed description of the invention, there is stated, as means for solving the problem, that: musical sound data is configured by compressed data made by compressing samples of integral multiple of the number of samples in one frame and uncompressed data made up of remaining samples; compressed data and uncompressed data of this musical sound data is read alternately; and, in advance of completion of reading of uncompressed data, a procedure to start extension of compressed data is executed.

However, in claim 1, there is stated that, upon receiving a read end notification from said uncompressed data reading means, said first procedure is executed again (the control means outputs said read command for compressed data to said compressed data reading means), and, in this case, a silent portion occurs during a period after reading uncompressed data and until the decoder 3 extends the first compressed data and outputs it (that is, between musical compositions).

Therefore, a solution for the problem to be solved by the invention of preventing occurrence of a silent portion between musical compositions in loop reproduction is not reflected to claim 1.

As a consequence, the invention according to claim 1 is an invention that exceeds the scope stated in the detailed description of the invention.

- Article 36(6)(i) (Support Requirement type (1)):

In claim 1, there is stated that, upon receiving a read end notification from the uncompressed data reading means, the control unit outputs a read command to the compressed data reading means again.

However, in the detailed description of the invention, there is just stated that, after the compressed data reading unit 2 outputting a read end notification, the control unit 6 outputs a read command for compressed data again to the compressed data reading unit 2, and, thus, there is no statement or suggestion that, upon receiving a read end notification from the uncompressed data reading unit 1, the control unit 6 instructs the compressed data reading unit 2 to read again.

[Measures of the applicant]

If claim 1 is amended to state the means for solving the problem stated in the detailed description of the invention, that is, the procedure of the control unit 6 (that, at the time when a read end is notified from the compressed data reading unit 2, the control unit 6 instructs the compressed data reading unit 2 to read compressed data again), the reason for refusal is resolved. For example, if claim 1 is amended as follows, the reason for refusal is resolved.

[Claim 1]

A musical sound data reproduction apparatus configured to perform loop reproduction of musical sound data, said musical sound data containing compressed data made by compressing a data size of integral multiple of a reproduction processing unit in reproduction of musical sound data and uncompressed data at an end portion, from a storage media storing said musical sound data, said musical sound data reproduction apparatus comprising:

...

wherein said control means executes

a first procedure to output a read command for said compressed data to said compressed data reading means;

a second procedure to switch said switching means to output of said decoder; and

a third procedure to output, upon receiving a read end notification from said compressed data reading means, a read command for said uncompressed data and a read command for said compressed data to said uncompressed data reading means and said compressed data reading means, respectively, and to switch said switching means to output of said uncompressed data reading means, in turn, and,

upon receiving read end notification from said uncompressed data reading means, executes said second procedure.

[Case 33]

Title of Invention

Information system

What is claimed is:

[Claim 1]

An information system, comprising: a plurality of terminals; an information processor configured to obtain first information from a database, and transmit the first information to a terminal; and a storing means for storing second information corresponding to each of the terminals,

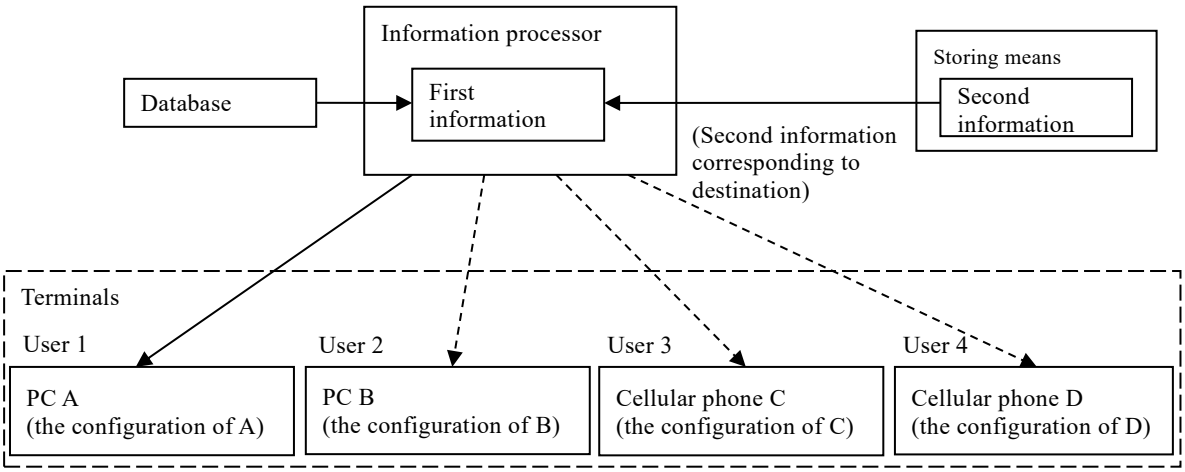
wherein the information processor performs processing to read the second information from the storing means, and to transmit the first information to the terminal.

Overview of the description

In the detailed description of the invention, there is stated to make it possible to provide, as a problem to be solved by the invention, information (first information) from a server (information processor) to any of the terminals having different data formats , and there is also stated that, as means for solving the problem, the server reads, on the occasion of providing information from the server to a terminal, a data format　conversion parameter (second information) corresponding to the terminal to be a transmission destination from the storing means, and, based on the data format　conversion parameter having been read , converts a data format　of the information (first information) to transmit the information in question to the terminal.

In one example, there is stated, as an example corresponding to this, to read a data format　conversion parameter corresponding to a concrete configuration　(the configuration of A to the configuration of D) of each terminal to be a destination from a storing means on a terminal-by-terminal basis, and convert the data format　of information based on the data format　conversion parameter having been read to transmit the information to the terminal in question.

Drawing



[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement)

In the detailed description of the invention, there is stated, as a problem to be solved by the invention, to make it possible to provide information (first information) from a server (information processor) to any one of terminals having different data formats , and there is also stated that, as means for solving the problem, the server (information processor) reads a data format conversion parameter (second information) corresponding to a terminal to be a destination from a storing means at the time of information provision, and, based on the data format conversion parameter (second information) having been read, converts the data format of the information (first information).

However, in claim 1, there is no statement at all about converting the data format of the first information based on the second information corresponding to a terminal to be a destination, and, thus, the solution for the problem to be solved by the invention is not reflected.

As a consequence, the invention according to claim 1 exceeds the scope stated in the detailed description of the invention.

- Article 36(6)(ii) (Clarity Requirement)

In claim 1, related to the second information, there is prescription of "second information corresponding to each of the terminals", and, "the information processor performs processing to read the second information from the storing means, and to transmit the first information to the terminal". However, only by the above prescription, it is not clear how to use the second information in the information system, and, thus, even if statements of the description and drawings and common general knowledge as of the filing is taken into consideration, the technical meaning of the second information (its action and role to be played in the invention according to claim 1) cannot be understood.

It is common general knowledge as of the filing that, in an invention of an information system, the content of processing and the like in the system differ substantially according to technical meaning of information to be handled, and, in view of such common general knowledge, it is obvious that a matter pertinent to role of the second information is insufficient in claim 1.　Accordingly, the invention cannot be clearly perceived from the statement of claim 1.

[Measures of the applicant]

If, by amendment, the means for solving the problem stated in the detailed description of the invention is reflected in claim 1, and, at the same time, if the technical meaning of the second information comes to be understandable, both the reasons for refusal are resolved.

For example, if amended as follows, the reasons for refusal are resolved.

An information system comprising: a plurality of terminals; an information processor configured to obtain first information from a database, and transmit the first information to a terminal; and a storing means for storing second information corresponding to each of the terminals, wherein the information processor reads the second information corresponding to a terminal to be a destination from the storing means, and, based on the second information having been read, performs data form conversion processing of the first information.

Meanwhile, in the detailed description of the invention, although there are disclosed concrete configurations　(the configuration of A　to the configuration of D) and parameters corresponding to the respective configurations as a type of a terminal and a data format　conversion parameter, respectively, there is no need to limit a type and parameter of a terminal to concrete ones because the problem to be solved by the invention is achieved by reading a parameter corresponding to a terminal to be a destination, and converting a data format　based on the parameter having been read.

[Case 34]

Title of Invention

Image encode chip

What is claimed is:

[Claim 1]

An image encoding chip which compresses the input image data and outputs the X-encoded image data, comprising:

an A-encoding circuit which encodes the externally input image data by an A-encoding system that is reversible, thereby producing A-encoded data;

an A-decoding circuit which decodes the produced A-encoded data into the original image data by an A-decoding system; and

an X-encoding circuit which encodes the decoded image data by an X-encoding system that is irreversible, thereby producing X-encoded image data, and externally outputs the produced X-encoded image data.

[Claim 2]

An image encoding chip which compresses the input image data and outputs the X-encoded image data, comprising:

an A-encoding circuit which encodes the externally input image data by an A-encoding system that is reversible, thereby producing A-encoded data;

an A-decoding circuit which decodes the produced A-encoded data into the original image data by an A-decoding system;

an X-encoding circuit which encodes the decoded image data by an X-encoding system that is irreversible, thereby producing X-encoded image data, and externally outputs the produced X-encoded image data;

a measurement circuit that measures the encoding time on the A-encoding circuit; and

a determination circuit which determines a parameter to be used for irreversible X-encoding based on the encoding time as informed by the measurement circuit, and informs the X-encoding circuit of such parameter.

Overview of the description

In the field of image encoding chips, it is already known that there is the technology of performing X-encoding of the externally input data based on a given parameter on a X-encoding circuit that is irreversible, and that X-encoding can be performed efficiently if said given parameter is set according to the time required for encoding the same data on a A-encoding circuit that is reversible. However, there are problems with this technology, such that users need to set the parameter for the X-encoding circuit by themselves according to the time required for encoding on the irreversible A-encoding circuit, and since this process

involves manual operations, it is inefficient and likely to invite human error.

The present invention aims to provide an image encoding chip that solves these problems. The invented image encoding chip can set the parameter for the X-encoding circuit automatically, without manual operations, which is efficient and less likely to invite human errors.

Examples disclose an image encoding chip, formed as a single chip, comprising (i) an A-encoding circuit which encodes the externally input data by reversible A-encoding, (ii) an A-decoding circuit which decodes the A-encoded data by A-decoding; (iii) an X-encoding circuit which encodes the decoded data by X-encoding and externally outputs the X-encoded data, (iv) a measurement circuit that measures the encoding time on the A-encoding circuit, and (v) a determination circuit which determines a parameter for X-encoding based on the information given by the measurement circuit, and informs the X-encoding circuit of such parameter. The examples describe that on the X-encoding circuit, the data sent from the A-decoding circuit is X-encoded by the parameter informed by the determination circuit. The detailed information on the A-encoding system, A-decoding system, and X-encoding system is also provided.

[Overview of Reason for Refusal]

- Article 36(6)(i) (Support Requirement): claim 1

The detailed explanation of the invention states that the problem to be solved by the present invention is to clear away the problems with the prior art (e.g. inefficiency and human errors), and examples show that this can be achieved by ensuring that the X-encoding circuit will be informed of the parameter that is determined based on the encoding time on the A-encoding circuit.

However, claim 1 cannot be regarded as reflecting anything about the means to solve the problem, such as using the information obtained on the A-encoding circuit for X-encoding.

Thus, the invention of claim 1 exceeds the scope stated in the detailed explanation of the invention.

- Article 36(6)(ii) (Clarity Requirement): claim 1

With regard to an invention relating to an image encoding chip, it is common general knowledge as of the filing that priority is given to speeding up, downsizing, promoting efficiency, and cost reduction. It runs against such common general knowledge to provide a circuit which only decodes the encoded data into the original data, as described in claim 1. Even in light of the statements of the description and drawings, the technical meanings of the A-encoding circuit and A-decoding circuit (the functions or roles that these components play in the invention of claim 1) cannot be understood. It is also common general knowledge as of the filing that the processing contents to be processed by an image encoding chip greatly differ depending on the technical meanings of the circuits mounted on that chip. In light of

such common general knowledge, it is evident that the matters to define the invention in claim 1 are deficient for understanding the roles of the A-encoding circuit and the A-decoding circuit in the image encoding chip. In conclusion, the invention cannot be clearly identified from the statement of claim 1.

(Supplementary Explanation)

While it is possible to understand the roles that the A-encoding circuit and the A-decoding circuit play in the aforementioned examples (i.e. determine the parameter to be used for X-encoding), claim 1 does not describe the feature of using the information obtained by the A-encoding circuit for X-encoding, and therefore this limitative interpretation cannot be applied to the roles to be played by the A-encoding circuit and the A-decoding circuit in the invention of claim 1. Consequently, even by taking into account the statements of the description and drawings, the technical meanings of the A-encoding circuit and A-decoding circuit cannot be understood.

[Remarks]

Claim 2 describes that the information obtained by the A-encoding circuit is to be used for X-encoding, thereby reflecting the means to solve the problem. Thus, claim 2 satisfies the requirement of Article 36(6)(i).

Furthermore, since claim 2 defines that the information obtained by the A-encoding circuit is to be used for X-encoding, the roles to be played by the A-encoding circuit and the A-decoding circuit in the invention of claim 2 can be understood. Thus, in light of the statements of the description and drawings, as well as the common general knowledge as of the filing, the technical meanings of the A-encoding circuit and the A-decoding circuit can be understood, and the invention can be clearly identified from the statement of claim 2. Therefore, claim 2 satisfies the requirement of Article 36(6)(ii).

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 1 and maintaining only claim 2.

[Case 35]

Title of Invention

Camera-equipped communication terminal

What is claimed is:

[Claim 1]

A camera-equipped communication terminal, comprising:

a camera configured to photograph an image;

an e-mail address obtaining means configured to obtain an e-mail address of a destination without a user setting said e-mail address of said destination; and

an e-mail transmission means configured to transmit an image photographed by said camera to said e-mail address.

Overview of the description

The present invention relates to a camera-equipped communication terminal having an e-mail transmission means.

In a camera-equipped communication terminal, when a user photographs a shooting object of a friend and the like, the user can transmit the photographed image to the friend and the like of the shooting object by e-mail easily. However, in a conventional camera-equipped communication terminal, when transmitting a photographed image by e-mail, it is required for a user to set an e-mail address of a friend and the like of a destination. An object of the present invention is to provide an e-mail transmission apparatus that makes it possible to, on the occasion of a user transmitting an image to a friend or the like of the object of the shooting, obtain an e-mail address from the photographed image without the user setting the e-mail address of the destination.

In the detailed description of the invention, there is stated that the e-mail address obtaining means of the camera-equipped communication terminal generates information to identify a person from an image photographed by a camera, and, if the information to identify a person is registered in an e-mail address storing means (address book), an e-mail address corresponding to the information to identify a person is obtained. In addition, in the detailed description of the invention, as means for generating information to identify a person from an image, there is illustrated: a well-known face recognition technology (a technology in which a face image of a person is registered in advance, and, when a face image similar to the registered face image is included in an image having been image-taken, information to identify a person is generated based on the face image); and a technology to generate information to identify a person by reading a name written on a badge attached to a shooting object using character recognition technology.

[Overview of Reason for Refusal]

Article 36(6)(i) (Support Requirement):

The problem to be solved by the invention that is stated in the detailed description of the invention is to make it possible to obtain an e-mail address of a friend and the like of a shooting object from an image photographed by a camera-equipped communication terminal. Then, in the detailed description of the invention, there is also stated, as means for solving the problem, means in which information to identify a person is generated from a photographed image, and an e-mail address is obtained using the relevant information to identify a person.

However, in claim 1, although there is stated "to obtain an e-mail address of a destination without a user setting said e-mail address of said destination", there is no statement at all about means for generating information to identify a person from a photographed image, and for obtaining an e-mail address using the information to identify a person, and, therefore, the means for solving the problem is not reflected in claim 1.

As a consequence, the invention according to claim 1 is an invention exceeding the scope stated in the detailed description of the invention.

[Measures of the applicant]

If, by amending claim 1, the means for solving the problem is stated, the reason for refusal is resolved.

For example, if it is amended as follows, the reason for refusal is resolved.

[Claim 1]

A camera-equipped communication terminal, comprising:

a camera configured to photograph an image;

an e-mail address storing means for storing information to identify a person generated from an image photographed by a camera and an e-mail address in an associated manner with each other;

an e-mail address obtaining means for obtaining an e-mail address from said e-mail address storing means based on said information to identify a person; and

an e-mail transmission means for transmitting said image to said e-mail address.

[Case 36]

Title of Invention

Authentication apparatus

What is claimed is:

[Claim 1]

An authentication apparatus, comprising:

a fingerprint obtaining means for obtaining fingerprint information;

a voiceprint obtaining means for obtaining voiceprint information;

a storing means for storing fingerprint information obtained in advance;

a calculation means for calculating fingerprint information specific to a user from voiceprint information of said user uniquely; and

a matching means for performing authentication processing of a user by matching fingerprint information of said user and fingerprint information stored in said storing means,

wherein, when user inputs voice to said authentication apparatus, said calculation means calculates fingerprint information from voiceprint information obtained by said voiceprint obtaining means, and said matching means performs authentication processing using said calculated fingerprint information.

Overview of the description

The present invention relates to an authentication apparatus to obtain fingerprint information or voiceprint information to perform authentication processing. There has been a problem that, in cases such as where a user is holding baggage in both hands, it is difficult to input a fingerprint to an authentication apparatus for the purpose of fingerprint authentication.

Therefore, in the present invention, a voiceprint obtaining means is included in an authentication apparatus performing fingerprint authentication, and an object of the present invention is to provide an authentication apparatus in which, even if a user inputs voice instead of a fingerprint to the authentication apparatus, similar authentication processing can be performed. In addition, another objective is to realize authentication processing using user's voice even if voiceprint information of a user is not registered with the authentication apparatus in advance so as to save the effort of a user necessary for preparation of authentication.

In the detailed description of the invention, there is stated that it is necessary to provide in an authentication apparatus: a calculation means for uniquely calculating fingerprint information specific to a user from voiceprint information of the user; and a matching means for matching the fingerprint information in question with fingerprint information registered in the authentication apparatus in advance. In addition, there is also stated that, if the above-mentioned calculation means uses a "special calculation algorithm", it is possible to

calculate fingerprint information from voiceprint information uniquely.

However, there is no explanation at all about how the "special calculation algorithm" performs processing on the occasion of performing calculation of fingerprint information specifically in the detailed description of the invention.

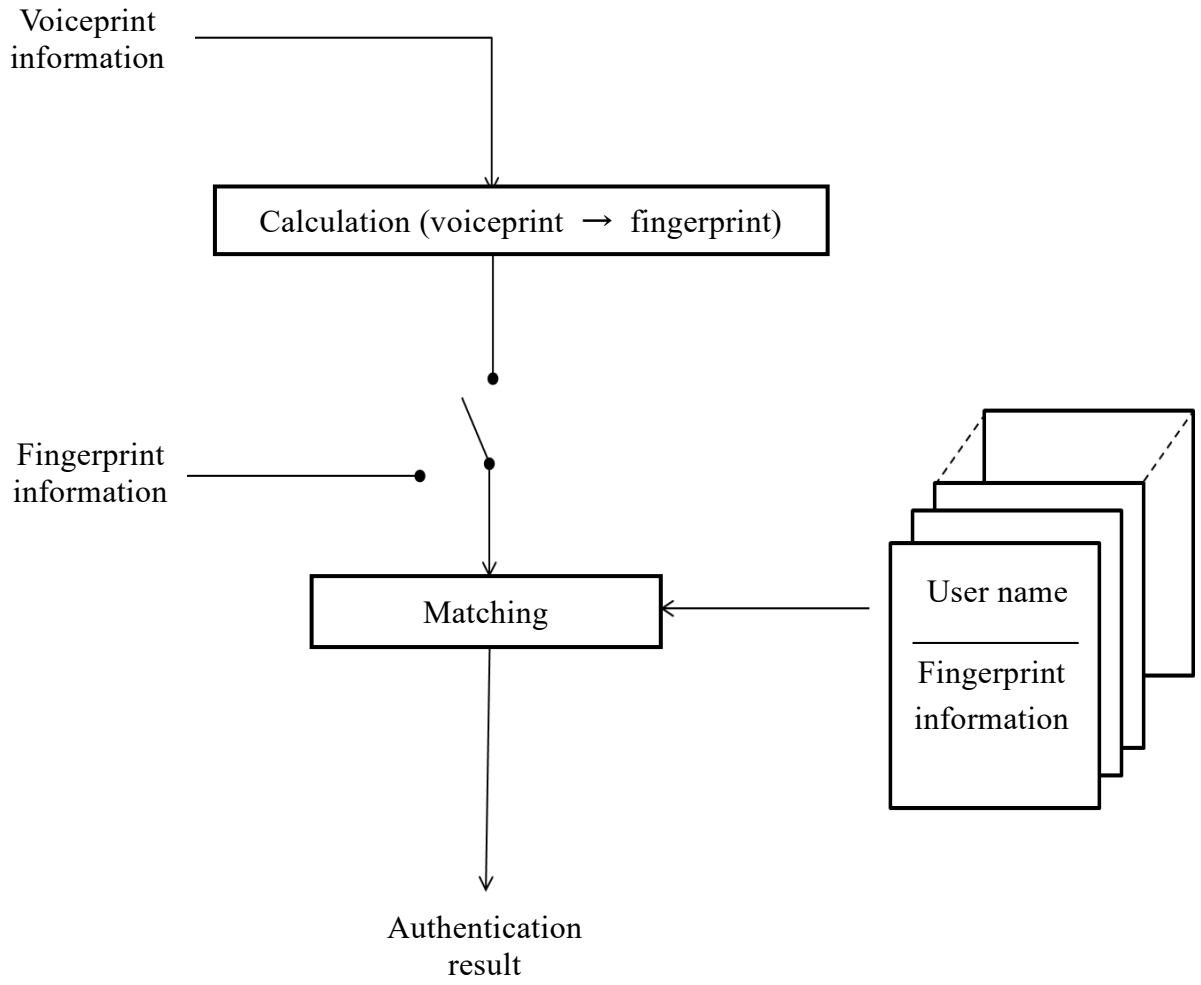
[Overview of Reason for Refusal]
- Article 36(4)(i) (Enablement Requirement)

In claim 1 there is stated "a calculation means for calculating fingerprint information specific to a user from voiceprint information of said user uniquely".
On the other hand, in the detailed description of the invention, there is stated that a calculation means corresponding to the invention according to claim 1 can calculate fingerprint information from voiceprint information by using a "special calculation algorithm".

However, regarding calculation processing of fingerprint information from voiceprint information executed by the "special calculation algorithm" of the calculation means, there is no explanation at all in the detailed description of the invention about what processing is performed specifically.

Then, considering that voiceprint information and fingerprint information are absolutely different biometric information, and there is no correlation between voiceprint information and fingerprint information generally even if the both pieces of information are originated from an identical person, it is still unclear how the calculation means of an authentication apparatus performs calculation processing of fingerprint information from voiceprint information even if the common general knowledge as of the filing is taken into consideration.

Therefore, in the detailed description of the invention, the invention according to claim 1 is not stated clearly and sufficiently to a degree that a person skilled in the art can work the invention.



[Measures of the applicant]

It is difficult to resolve the reason for refusal.

(Supplementary explanation)

In the detailed description of the invention, regarding the calculation means according to the present invention, the "special calculation algorithm" is not stated specifically to a degree that a specific means such as its structure and the like can be understood, and, also, it cannot be said that it is common general knowledge as of the filing. Therefore, it cannot be allowed to make a specific means such as its structure and the like clear with respect to the calculation means after filling by submitting a written opinion and the like. Accordingly, regarding the detailed description of the invention, even if it is purported to be one that has been stated clearly and sufficiently to a degree that a person skilled in the art can work the invention according to claim 1, the reason for refusal is not resolved.

[Case 37]

Title of Invention

Microorganisms

What is claimed is:

[Claim 1]

Streptomyces griseus producing an antibiotic A.

Overview of the description

In the present invention, Streptomyces griseus generally available was subject to artificial mutation by a specific method, and Streptomyces griseus producing a new antibiotic A was obtained.

In examples, the method for artificial mutation is stated in detail, and it is stated that one strain of Streptomyces griseus producing an antibiotic A was obtained.
(However, there is no statement that this strain has been deposited.)

[Overview of Reason for Refusal]

- Article 36(4)(i) (Enablement Requirement)

In the description of the invention, there is only a statement that one strain of Streptomyces griseus, of the present invention, producing an antibiotic A was obtained, and there is no statement that this strain has been deposited prior to filing.

In general, even if microorganisms with a certain property can be obtained by artificial mutation, it was the common general knowledge at the time of filing that microorganisms having similar properties can hardly be obtained with reproducibility. Accordingly, since it is not stated that more than one strain of Streptomyces griseus producing an antibiotic A has been obtained by the method stated in the description of the invention, a person skilled in the art, when performing an additional test, might not be able to obtain said strain of Streptomyces griseus with reproducibility.

Therefore, the description of the invention is not clearly and sufficiently stated so as to enable a person skilled in the art to carry out the invention relating to Streptomyces griseus producing an antibiotic A which is the invention claimed in claim 1.

[Measures of the applicant]

The applicant can submit a written opinion in which he/she argues that a person skilled in the art, by performing an additional test using the method of artificial mutation as stated in the description of the invention, might be able to obtain Streptomyces griseus producing the antibiotic A with reproducibility, without the need to make trials and errors and/or complicated and sophisticated experimentations beyond the extent to which a person skilled in the art should be reasonably expected. The applicant may overcome the reasons for

refusal by submitting the written opinion as above and a certificate of experimental results which supports the argument presented in the written opinion.

(Supplementary Explanation)

In general, even if microorganisms with a certain property can be obtained by artificial mutation, it was the common general knowledge at the time of filing that microorganisms having similar properties can hardly be obtained with reproducibility. Accordingly, the applicant cannot overcome the reasons for refusal only by arguing that the invention claimed in claim 1 can be obtained with reproducibility by performing an additional test of the examples, because the truth or falsity of such argument is unclear (see "Part II Chapter 1 Section 1 Enablement Requirement" 4.3 of Examination Guidelines). On the other hand, if the applicant, by submitting a certificate of experimental results in which an additional test of the examples was performed, successfully proves that the invention claimed in claim 1 can be obtained with reproducibility based on the statement of the description of the invention, it will be determined that the description of the invention is clearly and sufficiently stated so as to a person skilled in the art to carry out the invention claimed in claim 1. Consequently, the reasons for refusal will be overcome.

(Note)

Streptomyces griseus is a typical actinomycetes and is known to produce antibiotic streptomycin.

[Case 38]

Title of Invention

Wash-free rice

What is claimed is:

[Claim 1]

A wash-free rice manufacturing process which comprises the step of receiving a feed of rice within a tank and removing bran by washing the rice in water, the step of opening the drop valve situated at the bottom of the tank and dropping the bran-removed rice into the container waiting down below, and the step of drying the rice dropped into the container, and which includes the step of spraying oily ingredient X onto the inner wall of the tank before feeding rice, and the step of blowing air into the tank immediately before opening the drop valve.

[Claim 2]

Wash-free rice manufactured by the wash-free rice manufacturing process as described in claim 1.

Overview of the description

The purpose of the present invention is to provide a wash-free rice manufacturing process which can prevent rice from remaining within the tank after being washed to remove bran, so as to completely discharge the rice.

It is shown that by spaying oily ingredient X onto the inner wall of the tank before feeding rice, the inner wall of the tank can be made lubricious so as to prevent the rice from adhering to the wall, and by blowing air into the tank immediately before opening the drop valve, the rice that adheres to the inner wall of the tank can be effectively dropped into the container waiting down below.

Examples show that the use of the wash-free rice manufacturing process described in claim 1 can prevent the rice from adhering to the inner wall of the tank, thereby achieving the purpose mentioned above.

[Overview of Reason for Refusal]

- Article 36(6)(ii) (Clarity Requirement): claim 2

Claim 2 defines the invention of wash-free rice only by the wash-free manufacturing process as described in claim 1.

The description states that said wash-free rice manufacturing process prevents rice from remaining within the tank after being washed to remove bran, so as to completely discharge the rice. However, it does not state anything about how the step of spraying oily ingredient X onto the inner wall of the rice washing tank could affect the wash-free rice to be obtained, nor is this feature clear from the common general knowledge as of the filing.

Therefore, even taking into account the statements of the description and drawings, as well as the common general knowledge as of the filing, the characteristics of the wash-free rice to be manufactured by said wash-free rice manufacturing process cannot be understood, and the invention of claim 2 is unclear.

[Remarks]

Claim 1 satisfies the requirement of Article 36(6)(ii) (Clarity Requirement).

[Measures of the applicant]

The applicant can overcome all of the reasons for refusal by deleting claim 2 and maintaining only claim 1.

[Case 39]

Title of Invention

Light source device

What is claimed is:

[Claim 1]

A light source device that can converge onto an identical optical path laser beams from two lasers that emits laser beams having a substantially identical wavelength and emit the laser beams, wherein

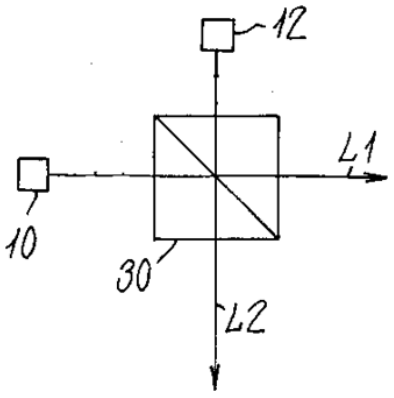
the light source device has the two lasers and a beam splitter, and is configured to define a relative positional relation of each laser and the beam splitter, so that a laser beam emitted from one laser and passing through the beam splitter and a laser beam emitted from the other laser and reflected by the beam splitter move on the same optical path.

Overview of the description

An objective of this application is to easily converge and emit laser beams from two lasers independent of a polarization state thereof.

The detailed description of the invention states: Laser beams emitted from respective lasers 10, 12 are S polarization, and enter a non-polarizing beam splitter 30, which is formed by combining slope parts of two rectangular prisms, from a direction orthogonal to each other. Each of the laser beams is transmitted about 50% and reflected about 50% at the slope parts. Two light beams L1, L2 emitted from the non-polarizing beam splitter 30 converging the respective laser beams with the optical intensity of component laser beams from the lasers 10, 12 being equal to each other and wavelength of laser beams emitted from two lasers being "substantially identical" mean that wavelengths are same within a range of wavelength fluctuations due to wavelength dispersion caused by an error between individual lasers or a temperature change. For example, it is acceptable if wavelengths fall within about ±10 nm relative to a reference wavelength.

Drawing



[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(ii) (Clarity requirement):

In the statement of the detailed description of the invention, it is defined that "being ‘substantially identical’ means that wavelengths are same within a range of wavelength fluctuations due to wavelength dispersion caused by an error between individual lasers or a temperature change". The "substantially identical" is clear in its technical meaning or technical scope, and the invention claimed in claim 1 can be clearly understood. Thus, the statement in claim 1 satisfies the clarity requirement.

[Case 40]

Title of Invention

Contrast microscope

What is claimed is:

[Claim 1]

In a modulating contrast microscope in which are provided a modulator arranged at a posterior focal position of an objective lens of an observing optical system or at a position conjugate to the posterior focal position, and formed by being divided into different transmittance areas to a predetermined radius direction, and

an aperture plate having an aperture transmitting some of beams of a lighting optical system to a position in the lighting optical system conjugate to the posterior focal position, a contrast microscope wherein the aperture is shaped as an almost octagon.

Overview of the description

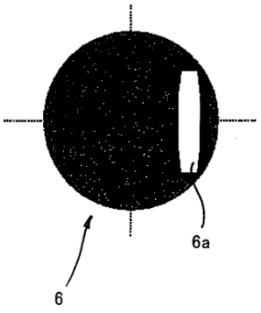
An objective of this application is to reduce fluctuations in background brightness or contrast involved in movement of an image at a partial aperture by making the partial aperture such shaped that an area change of the partial aperture is reduced relative to a radius direction, when in a modulating contrast microscope, a phase sample having a markedly uneven microscopic structure is observed and an image of the partial aperture is shifted to a predetermined radius direction centering around an optical axis.

The detailed description of the invention states: In order to reduce area fluctuations and control an amount of transmitted light, an almost octagon shaped partial aperture 6a is provided in an aperture plate 6. For shape of the partial aperture 6a, the shape of the partial aperture 6a may be any shape as far as the area slowly changes to a predetermined radius direction centering around an optical axis.

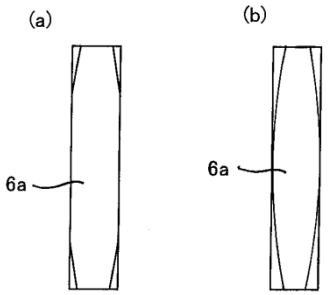
Then, as an operative example of the almost octagon shaped partial aperture 6a, Fig. 2(a)-(b) are shown. In Fig. 1 and Fig. 2(a) is shown the partial aperture 6a shaped as an almost octagon by linearly removing four corner parts of a rectangle thereof. In Fig. 2(b) is shown the partial aperture 6a shaped as an almost round octagon by arcuately removing four corner parts of a rectangle thereof.

Drawing

[Fig. 1]



[Fig. 2]



[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(ii) (Clarity requirement):

In the statement of the detailed description of the invention, it is stated that the shape of the partial aperture 6a of the aperture plate 6 may be any shape as far as the area slowly changes to a predetermined radius direction centering around an optical axis.

In addition, as examples of removing four corner parts of a rectangle as almost octagon shape, the example of linearly removing and the example of arcuately removing are stated.

Therefore, in light of these statements, the shape of almost octagon is clear in the sense that the almost octagon is a shape in which four corners of a rectangle are removed so that its area slowly changes relative to a predetermined radius direction centering around an optical axis, and the invention claimed in claim 1 can be clearly understood. Thus, the description in claim 1 satisfies the clarity requirements.

[Case 41]

Title of Invention

Contents delivery system

What is claimed is:

[Claim 1]

A content delivery system including a first server device, a client device, and a second server device, wherein

the first server device comprises:

a delivery method determination unit configured to acquire delivery frequency information corresponding to a content ID included in a content delivery request, upon receipt of the content delivery request from the client device, determine to use delivery by the second server device if delivery frequency indicated by the delivery frequency information exceeds a predetermined threshold, and otherwise determine to use direct delivery; and

a delivery control unit configured to send to the client device a redirect instruction which is an instruction to acquire contents from the second server device when the delivery method determination unit determines to use the second server device, and send to the client device contents corresponding to the content ID included in the content delivery request when the delivery method determination unit determines to use the direct delivery, wherein

the client device comprises:

a content request unit configured to send to the first server device a content delivery request including a content ID; and

a redirect transfer unit configured to send to the second server device a content transfer request including the content ID when receiving a redirect instruction from the first server device, and

the second server device comprises:

a content transfer unit configured to send to the client device content corresponding to the content ID when receiving the content transfer request including the content ID from the client device.

[Claim 2]

A client device capable of communicating with a first server device and a second server device, the client device comprising:

a content request unit configured to transmit to the first server device a content delivery request including a content ID; and

a redirect transfer unit configured to send to the second server device a content transfer request including the content ID when receiving a redirect instruction from the first server device, wherein

the redirect instruction is sent from the first server device when delivery frequency

corresponding to the content ID exceeds a predetermined threshold in the first server device.
[Claim 3]

A client device in the content delivery system according to claim 1.

Overview of the description

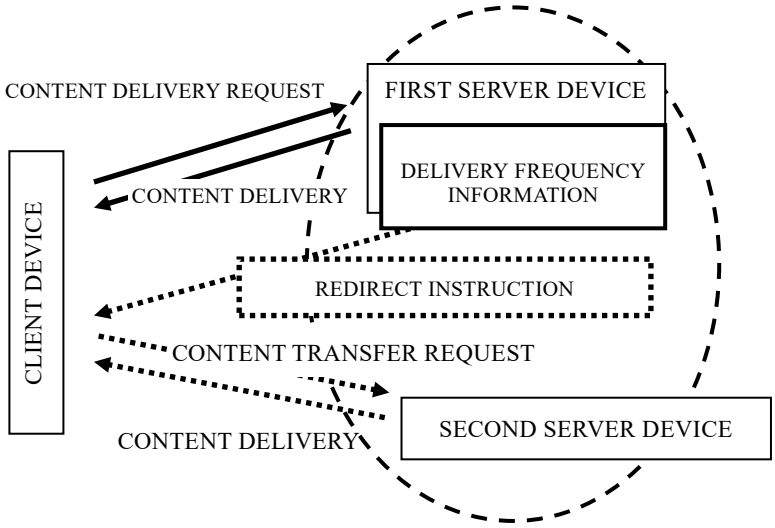
A content request unit, a content acquisition unit, and a redirect transfer unit of a client device are composed of a browser (transmission/receipt means) which is well-known at the time of application.

a first server device determines delivery frequency of content corresponding to a content ID based on the content ID included in a content delivery request from the client device;

Then, if the delivery frequency does not exceed a predetermined threshold, the first server device delivers corresponding content to a client device at a request source, and sends a redirect instruction to instruct the client device at a request source to receive delivery from the second server device, when the delivery frequency exceeds the predetermined threshold.

A redirect instruction sent by the first server device uses, for example, a well-known redirect technique (HTTP redirect, or the like).

Drawing



[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(ii) (Clarity Requirement)

The invention claimed in claim 1 has no unclear point and thus the invention is clear.

The statement in claim 2 that "the redirect instruction is sent from the first server

device when delivery frequency corresponding to the content ID exceeds a predetermined threshold in the first server device" relates to processing of the first server device and does not directly specify the invention of the "client device" claimed in claim 2.

Here, according to the statement in claim 2, the redirect instruction received by the client device claimed in claim 2 is specified as "the redirect instruction sent from the first server device when delivery frequency corresponding to the content ID exceeds a predetermined threshold in the first server device" by the statement that does not directly specify the above-mentioned invention. In addition, the client device can be clearly understood as that configured to receive such a redirect instruction.

Therefore, the sub-combination invention is specified because of the statement that does not directly specify the invention, and the sub-combination invention can be clearly understood, thus the invention claimed in claim 2 does not become unclear by said statement.

In addition, since there is no other unclear point, the invention claimed in claim 2 is clear.

Claim 3 is a citing-type claim, and with reference to the cited claim 1, the invention claimed in claim 3 is recognized as an invention (hereinafter referred to as the above-mentioned invention) of:

"A client device in a content delivery system including a first server device, a client device, and a second server device, wherein in the content delivery system,

the first server device comprises:

a delivery method determination unit, [...] and a delivery control unit, wherein

the client device comprises:

a content request unit configured to send to the first server device a content delivery request including a content ID; and

a redirect transfer unit configured to send to the second server device a content transfer request including the content ID when receiving a redirect instruction from the first device, and

the second server device comprises:

a content transfer unit [...]."

In the above-mentioned invention, the statements that "first server device comprises [...] a delivery control unit" and "second server device comprises [...] a content transfer unit" is a statement that does not directly specify the "client device" claimed in claim 3.

Here, according to the statement of the above-mentioned invention, the client device claimed in claim 3 comprises "a content request unit configured to send to the first server device a content delivery request including a content ID; and a redirect transfer unit configured to send to the second server device a content transfer request including the content ID when receiving a redirect instruction from the first server device". In light of the statement related to "the first server device" and "the second server device" in the above-mentioned invention, the client device claimed in claim 3 is specified as "the client device comprising

a content request unit configured to send a delivery request including a content ID to the first server device, which comprises a delivery method determination unit, [...] and a delivery control unit, and a redirect transfer unit configured to send to the second server device a content transfer request including the content ID when receiving a redirect instruction from the first server device" and can be clearly understood as such a client device.

Then, since there is no other unclear point, the invention claimed in claim 3 is clear.

Note that a determination on the clarity in a case in which the claimed invention is "a client device for the content delivery system according to claim 1" and "a client device to be used in the content delivery system according to claim 1" is similar to the invention claimed in claim 3.

(Reference)

For novelty, see Case 26 in "4. Collections of Cases Regarding Novelty (Patent Act Article 29(1))".

[Case 42]

Title of Invention

Network system

What is claimed is:

[Claim 1]

A network system consisting of a data server, a connection control server, and a provider server, comprising:

means to receive from a client an authentication request involving an ID and a password;

authentication means to authenticate the client;

notification means to notify the client of an access permission including an authentication key generated from the received ID and password, when the client can be authenticated;

means to receive a content delivery request involving a content ID including the authentication key from the client who is notified of the access permission; and

means to deliver contents corresponding to the content ID when it is determined that the authentication key matches the generated authentication key.

[Claim 2]

A provider server in a network system consisting of a data server, a connection control server, and a provider server, wherein

the network system has:

means to receive from a client an authentication request involving an ID and a password;

authentication means to authenticate the client;

notification means to notify the client of an access permission including an authentication key generated from the received ID and password, when the client can be authenticated;

means to receive a content delivery request involving a content ID including the authentication key from the client who is notified of the access permission; and

means to deliver contents corresponding to the content ID when it is determined that the authentication key matches the generated authentication key.

[Claim 3]

The provider server in the network system according to claim 1.

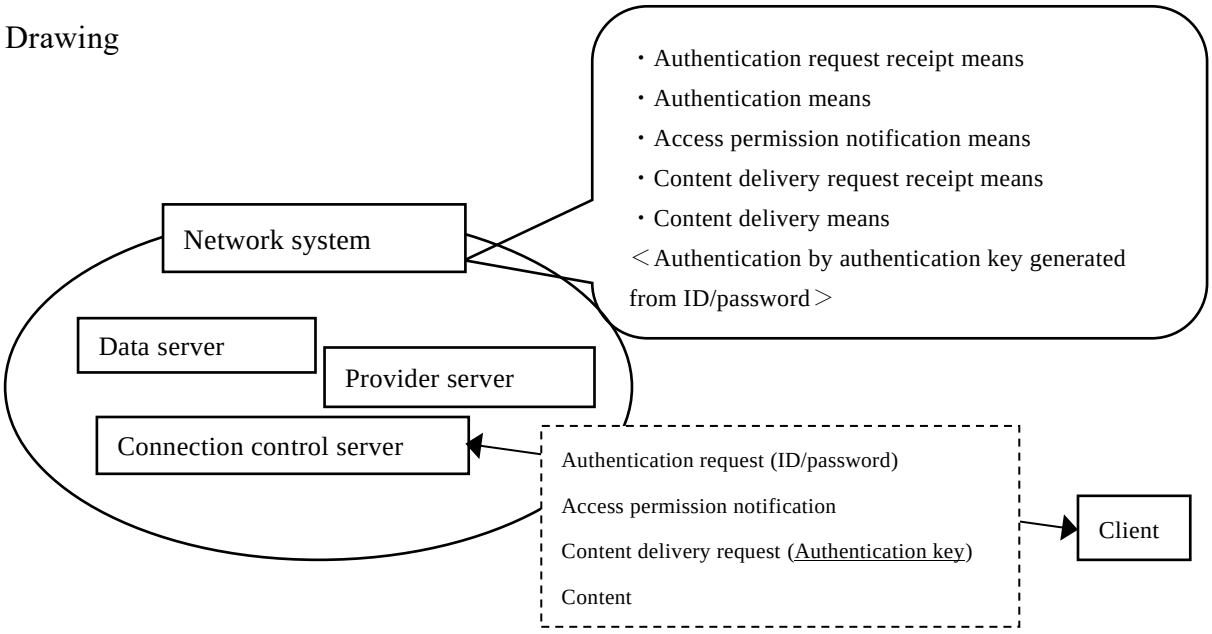
Overview of the description

The present invention relates to a network system configured to perform content delivery that preventing spoofing by others, and is characterized by authentication processing.

A network system of the present invention authenticates a client based on an ID and a password received from the client. When the client can be authenticated, the network system notifies the client of an access permission including an authentication key generated from the ID and the password. When the network system receives a content delivery request involving a content ID including the authentication key from the client who is notified of the access permission, the network system controls delivery of contents corresponding to the content ID based on whether or not the received authentication key and the generated authentication key match.

In addition, the network system of the present invention has a data server, a connection control server, and a provider server. Authentication of a client, notification of an access permission, receipt of a content delivery request, and control of content delivery may each be performed by any of the data server, the connection control server, and the provider server.

Drawing



[Overview of Reason for Refusal]

- Article 36(6)(ii) (Clarity requirement): Claims 2, 3

The statement in claim 2 that "wherein the network system has: [...]"relates to a network system, and is the statement that does not directly specify the invention of the "provider server" claimed in claim 2.

Here, while the means that the network system of claim 2 has can be clearly understood from the statement, it is unknown which server is provided with which of the respective means that the network system of claim 2 has. It cannot be clearly understood which of the respective means of the network system the provider server of claim 2 has or whether the provider server of claim 2 does not have any means.

Therefore, for the invention claimed in claim 2, it cannot be clearly understood due to the statement that does not directly specify the invention whether or not said sub-combination invention has been specified. In addition, since it cannot be clearly

understood how it is specified, the invention claimed in claim 2 is unclear.

Claim 3 is a citing-type claim, and with reference to the cited claim, the invention claimed in claim 3 is recognized as an invention of:

"A provider server in a network system consisting of a data server, a connection control server, and a provider server, the network system comprising:

means to receive from a client an authentication request involving an ID and a password;

[...]

means to deliver contents corresponding to the content ID when it is determined that the authentication key matches the generated authentication key."

Here, the statement of "in a network system consisting of a data server, a connection control server, and a provider server, the network system comprising:

means to receive from a client an authentication request involving an ID and a password;

[...]

means to deliver contents corresponding to the content ID when it is determined that the authentication key matches the generated authentication key." is the statement that does not directly specify the invention of the "provider server" according to claim 3.

While the means that the network system of claim 3 has can be clearly understood from the statement, it is unknown which server is provided with which of the respective means that the network system of claim 3 has. It cannot be clearly understood which of the respective means of the network system the provider server of claim 3 has or whether the provider server of claim 3 does not have any means.

Therefore, for the invention claimed in claim 3, it cannot be clearly understood due to the statement that does not directly specify the invention whether or not said sub-combination invention has been specified. In addition, since it cannot be clearly understood how it is specified, the invention claimed in claim 3 is unclear.

[Remarks]

The invention claimed in claim 1 has no unclear point and the intention is clear.

[Measures of the applicant]

The reason for refusal will be cleared when the applicant deletes claims 2 and 3 and limits the claims only to claim 1

(Reference)

For novelty, see Case 27 in "4. Collections of Cases Regarding Novelty (Patent Act Article 29(1))"

[Case 43]

Title of Invention

Monitoring system

What is claimed is:

[Claim 1]

A monitoring system consisting of a host device, a monitoring device, and a plurality of monitored devices,

wherein the monitoring device comprises:

state information reception means periodically receiving state information from the plurality of monitored devices;

host device transmission means transmitting the state information to the host device; and

control information transmission means transmitting control information to each of the plurality of monitored devices,

wherein the monitored device comprises:

state information transmission means for periodically transmitting the state information on the own device to the monitoring device; and

control information reception means for receiving the control information from the monitoring device,

wherein the host device transmission means of the monitoring device determines whether or not the sets of state information from the plurality of monitored devices have the same contents, and if the number of the sets of state information having the same contents is a predetermined number or more, aggregates the state information and transmits it to the host device, and if the number of the sets of state information having the same contents is less than the predetermined number, transmits the state information to the host device without aggregating the state information.

[Claim 2]

A monitoring device comprising:

state information reception means for periodically receiving sets of state information from a plurality of monitored devices;

host device transmission means for transmitting the state information to the host device; and

control information transmission means for transmitting control information to each of the plurality of monitored devices,

wherein the host device transmission means determines whether or not the sets of state information from the plurality of monitored devices have the same contents, and if the number of the sets of the state information having the same contents is a predetermined

number or more, aggregates the state information and transmits it to the host device, and if the number of the sets of the state information having the same contents is less than the predetermined number, transmits the state information to the host device without aggregating the state information.

[Claim 3]

A monitored device communicating with a monitoring device that determines whether or not sets of state information from a plurality of the monitored devices have the same contents, and if the number of the sets of the state information having the same contents is a predetermined number or more, aggregates the state information and transmitting it to the host device, and if the number of the sets of the state information having the same contents is less than the predetermined number, transmits the state information to the host device without aggregating the state information,

and comprising:

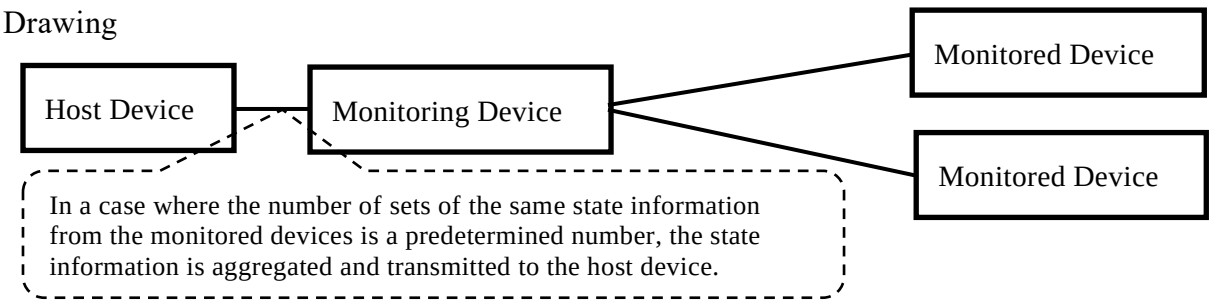
state information transmission means for periodically transmitting the state information on the own device to the monitoring device; and

control information reception means for receiving the control information from the monitoring device.

Overview of the description

In a monitoring system, a monitoring device comprises: means for periodically receiving state information from a plurality of monitored devices; means for transmitting control information to each of the plurality of monitored devices; and means for transmitting the state information from the plurality of monitored devices to the host device, and the means for transmitting to the host device determines whether or not sets of the state information from the plurality of monitored devices have the same contents, and if the number of the sets of the state information having the same contents is a predetermined number or more, aggregates the state information and transmits it to the host device, and if the number of the sets of the state information having the same contents is less than the predetermined number, transmits the state information to the host device without aggregating the state information. In addition, the monitored device comprises: means for periodically transmitting the state information on the own device to the monitoring device; and means for receiving the control information from the monitoring device.

Drawing



[Overview of Reason for Refusal]

No reason for refusal

[Remarks]

- Article 36(6)(ii) (Clarity Requirements):

There is no unclear point in the inventions related to Claims 1 and 2, and the inventions are clear.

The description of "a monitoring device for determining whether or not sets of the state information from the plurality of monitored devices have the same contents, and if the number of the sets of the state information having the same contents is a predetermined number or more, aggregating the state information and transmitting it to the host device, and if the number of the sets of the state information having the same contents is less than the predetermined number, transmitting the state information to the host device without aggregating the state information," in claim 3 is related to a monitoring device, and does not directly identify the invention of "a monitored device" related to claim 3.

Here, according to the description of claim 3, the monitored device related to claim 3 is identified, by the above description not directly identifying the invention, as one that communicates with the above-described monitoring device and comprises state information transmission means for periodically transmitting the state information on the own device to the above-described monitoring device, and control information reception means for receiving the control information from the above-described monitoring device, and can be clearly recognized as such the monitored device.

Accordingly, because the subcombination invention is identified by the description not directly identifying the invention, the invention related to claim 3 is not considered unclear due to the description.

In addition, because there is no other unclear point, the invention related to claim 3 is clear.

(Reference)

For Novelty, refer to Case 28 in "4. Collection of Cases Related to Novelty (Article 29(1) of Patent Act)".

[Case 44]

Title of Invention

Drink bottle

What is claimed is:

[Claim 1]

A drink bottle comprising a printed layer formed at a trunk part of a bottle main body, wherein the printed layer is made of an α material and has a print score of 5 or more.

Overview of the description

An object of the present invention is to provide a drink bottle with an excellent recyclability, and such a drink bottle has a trade name etc. printed directly on the bottle instead of a conventional shrinkage label.

A manufacturer of bottles carries out a plurality of required tests (standard tests such as those from ASTM, JIS) depending on characteristics of the printed layer, and independently produces an evaluation table prescribing a print score corresponding to each test result to thereby evaluate the printed layer of the bottle.

With respect to an evaluation method for the printed layer of the bottle, there are the following descriptions.

(1) For the printed layer of the bottle of the present invention, a test X (ASTM:XXXX), a test Y (ASTM:YYYY), and a test Z (JIS:ZZZZ) are carried out, and an evaluation table ([Table 1]) classified into print scores 1-8 corresponding to each test result is produced to perform evaluation (In addition, criteria for determining as "adapted" in each test are described in the description).

[Table 1]

Print Score	Test X	Test Y	Test Z
8	Adapted	Adapted	Adapted
7	Not adapted	Adapted	Adapted
6	Adapted	Adapted	Not adapted
5	Adapted	Not adapted	Adapted
4	Not adapted	Adapted	Not adapted
3	Not adapted	Not adapted	Adapted
2	Adapted	Not adapted	Not adapted
1	Not adapted	Not adapted	Not adapted

(2) For the evaluation table for the printed layer of the bottle, there can be used not only one shown in [Table 1] but also one produced on the basis of four or more test results by adding

other tests or one produced by modifying the criteria for determining as "adapted" in the tests X, Y, and Z. In addition, rather than the classification into the print scores 1-8, further subdivided evaluation can be used.

[Overview of Reason for Refusal]
- Article 36(6)(ii) (Clarity Requirements):

The evaluation table for the printed layer of the bottle is produced independently by a manufacturer, and as of the filing it was common general knowledge that the print score of the evaluation table is not classified by a common rule, and thus, the meaning of a term of "a print score of 5 or more" described in Claim 1 cannot be understood from the term.

Here, in consideration of the statement of the detailed description of the invention, the evaluation table for the bottle printed layer is shown in [Table 1], and what sort of test result the print score of 5 or more corresponds to can be understood tentatively.

However, because there is a description that the evaluation table is not limited to one shown in [Table 1] (the above "Overview of Detailed Description of Invention (2)") in the description etc., the technical meaning of "a print score of 5 or more" of Claim 1 cannot be grasped in conclusion.

Accordingly, it is not considered that the technical meaning of "a print score of 5 or more" is clarified in the descriptions, etc., and even in consideration of the description, the drawings and the common general knowledge as of the filing, the meaning of "a print score of 5 or more" cannot be understood, and thus, the invention cannot be grasped clearly from the description of Claim 1.

[Measures of the applicant]

If the above description (2) described in the overview of detailed description of invention is deleted and it is clarified that the term of "a print score" in Claim 1 is defined by [Table 1], the term of "a print score of 5 or more" in Claim 1 is defined technically so that the meaning of the term can be understood, and thus, the reason for refusal can be resolved.

[Case 46]

Title of the Invention

SUGAR CONTENT ESTIMATION SYSTEM

What is claimed is:

[Claim 1]

A sugar content estimation system comprising:

a storage means for storing face images of people and sugar contents of vegetables produced by the people;

a model generation means for generating a determination model through machine learning, to which a face image of a person is input and from which a sugar content of a vegetable produced by the person is output, using training data containing the face images of the people stored in the storage means and the sugar contents of the vegetables,

a reception means for receiving an input of an face image; and

a processing means for outputting, using the generated determination model that has been generated by the model generation means, a sugar content of a vegetable produced by a person that is estimated based on the face image of the person inputted to the reception means.

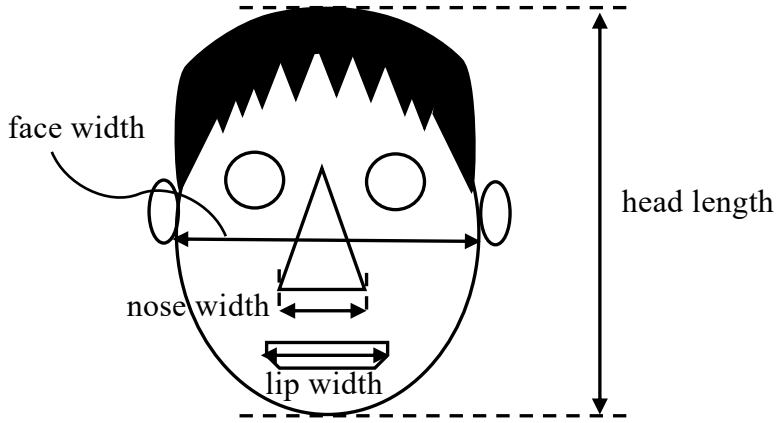
Overview of the Description

It is an object of the present invention to provide a system that estimates a sugar content of a vegetable produced by a person based on his/her face image, taking advantage of the existence of a certain correlation between a face feature of a person and a sugar content of a vegetable produced by the person. For example, a face figure is characterized by a head length, face width, nose width, and lip width as shown in the figure. Here, a "sugar content" of a vegetable means a sugar content at the time when a certain period predetermined for each type of vegetables has passed after seeding. With this system, it is possible to estimate which person can produce a vegetable with a highest sugar content in a community.

A sugar content estimation system of the present invention firstly receives an input of a face image of a person by a user. A sugar content of a vegetable produced by a person is obtained using a determination model, to which a face image of the person is input and from which a sugar content of the vegetable produced by the person is output. The determination model is generated through a supervised machine learning using a known machine learning algorithm such as a convolutional neural network (CNN) by learning correlation between a face image of a person and a sugar content of a vegetable produced by the person.

Note:

In this case, it is assumed that, even in view of a common general technical knowledge at the time of filing, a person skilled in the art cannot presume a certain relation such as a correlation (hereinafter, referred to as a "correlation or the like" in this Case Example) between a face image of a person and a sugar content of a vegetable produced by the person.



Figure

[Overview of Reason for Refusal]

・ Article 36(4)(i) (Enablement Requirement)

According to the description, a human face image is used for an input to a determination model that estimates a sugar content of a vegetable produced by the person. The description says that a face feature is characterized by a head length, face width, nose width, and lip width, for example.

However, the description only disclose that there is a certain correlation between a face image of a person and a sugar content of a vegetable produced by the person and does not disclose any correlation or the like between them, though disclosing that a face feature is characterized by a head length, face width, nose width, and lip width, for example. It cannot be presumed that there is a correlation or the like between them, even if a common general technical knowledge at the time of filing is taken into consideration. Further, there is no performance evaluation result of an actually generated determination model shown in the description.

Accordingly, it is not possible for a person skilled in the art to derive a sugar content estimation system that outputs an estimation of a sugar content of a vegetable produced by a person based on an input of a face image of the person, even if the disclosure in the description and a common general technical knowledge at the time of filing are taken into consideration.

Therefore, a "sugar content estimation system" in Claim 1 is not disclosed in the description in a manner that a person skilled in the art can make and use the system. In other words, the description does not provide a clear and sufficient disclosure for a person skilled in the art to carry out the invention.

Measures to be Taken by the Applicant

The reason for refusal cannot be overcome, unless the applicant prove that a person skilled in the art can presume a correlation or the like between a face image of a person contained in a training data for machine learning in the estimation model of the present invention and a sugar content of a vegetable produced by the person.

Further, the reason for refusal cannot be overcome, even if the applicant submits a certificate of experimental results that supports the estimation by the trained model of Claim 1 to make an argument that an object of the invention can be attained.

[Case 47]

Title of the Invention

BUSINESS PLAN DESIGN APPARATUS

What is claimed is:

[Claim 1]

A business plan design apparatus comprising:

a storage means for storing a stock amount of a specific product;

a reception means for receiving a web advertisement data and mention data of the specific product;

a simulation and output means for, using an estimation model that has been trained through machine learning with a training data containing a web advertisement data and mention data of a similar product that has been sold in the past and a sales quantity of the similar product, simulating and outputting a future sales quantity of the specific product estimated based on the web advertisement data and mention data of the specific product;

a production plan making means for planning a future production quantity of the specific product, based on the stored stock amount and the output sales quantity; and

an output means for outputting the output sales quantity and the production plan.

Overview of the Description

As the internet is widely spreading, a web advertisement has become an effective way for sales promotion of a product. However, it cannot readily be determined on-site whether a web advertisement is actually effective, and through trial and error, not a few business opportunities have been wasted due to stock shortage or the like. In view of this, it is an object of the present invention to provide a business plan design apparatus that estimates a sales quantity of a specific product in the future based on a web advertisement data and mention data of the product, and presents a production plan of the product including a future production quantity based on a stored stock amount and an estimated sales quantity. With this apparatus, a seller of a specific product can revise a production plan of the product at an early stage.

The business plan design apparatus firstly stores a stock amount of a specific product. The apparatus then obtains an estimated product sales quantity of the product based on an input of a web advertisement data and mention data of the product, using an estimation model that outputs an estimated product sales quantity. In this case, the web advertisement data is the number of times when the specific product publicly appeared on the web. The advertisement includes banner ads, product listing ads, and direct e-mails. The mention data includes reviews on the product or advertisement in web articles, social media, and blogs etc. In the reviews on the product or advertisement, an evaluation value is set so that it becomes greater if there are a lot of positive reviews, and otherwise, it becomes lower.

The evaluation value can be obtained through a known computer processing on the text in web articles, social media, and blogs etc. The estimation model is generated through a supervised machine learning with a training data using a known machine learning algorithm such as a neural network. The training data contains a relation between a web advertisement data and mention data of a similar product that has been sold in the past and an actual sales quantity of the similar product.

The model compares the stored stock amount and the estimated sales quantity of the product. Then, the model makes a plan for an increased production if the sales quantity exceeds the stored stock amount, and otherwise, makes a plan for a decreased production.

The apparatus, using the estimation model that has been trained in this way, simulates a sales quantity of a product, compares the sales quantity and a stock amount of the product, and presents the comparison in a manner that a user can readily determine whether a production of the product should be increased or decreased.

Note:

In this case, it is assumed that, in view of a common general technical knowledge at the time of filing, a person skilled in the art can presume a certain relation such as a correlation (hereinafter, referred to as a "correlation or the like" in this Case Example) between the advertisement data and reference data on the web and the sales quantity.

[Overview of Reason for Refusal]

There is no reason for refusal found.

Notes

- Article 36(4)(i) (Enablement Requirement)

The description discloses that a web advertisement data and mention data are used. The web advertisement data is based on the number of times when a specific product publicly appeared on the web, and the mention data is based on an evaluation value of reviews on the product or advertisement in web articles, social media, and blogs etc.

Although the description does not discloses a correlation or the like between the web advertisement data and the mention data, it can be presumed that there is a correlation or the like between them in view of a common general technical knowledge at the time of filing.

Further, it is known at the time of filing that an estimation model can be generated that estimates an output in response to an input through machine learning with a training data containing an input data and output data having a correlation or the like, using a generally-used machine learning algorithm.

In view of the above, an estimation model can be generated using a universal machine learning algorithm with a training data containing the number of times when a similar product publicly appeared on a web advertisement, an evaluation value of reviews on the product or advertisement in web articles, social media, and blogs etc., and a sales quantity

of the similar product. Accordingly, it is obvious for a person skilled in the art that a business plan design apparatus can be derived that simulates and outputs a sales quantity of a specific product, makes a production plan of the specific product based on the output sales quantity, using the above estimation model.

Therefore, a "business plan design apparatus" in Claim 1 is disclosed in the description in a manner that a person skilled in the art can make and use the apparatus. In other words, the description provides a clear and sufficient disclosure for a person skilled in the art to carry out the invention.

[Case 48]

Title of the Invention

AUTONOMOUS VEHICLE

What is claimed is:

[Claim 1]

An autonomous vehicle having a driver monitoring device,

the driver monitoring device including:

an image obtainment unit that obtains an image taken by an imaging device that has been positioned so as to take an image of a driver seated in a vehicle seat; and

a quick reaction capability estimation unit that inputs the taken image to a trained learning model and obtains a quick reaction capability score representing a quick reaction capability of the driver during vehicle operation from the trained learning model, the trained learning model having been trained through machine leaning to estimate a quick reaction capability of the driver during vehicle operation,

wherein switching from an autonomous operation mode in which a vehicle is operated automatically to a manual operation mode in which a vehicle is operated manually by a driver is prohibited, in a case where the obtained quick reaction capability score does not satisfy a predetermined condition.

Overview of the Description

An autonomous vehicle having a driver monitoring device of the present invention is configured in a manner that an operation mode can selectively be switched between an autonomous operation mode in which a vehicle is operated automatically and a manual operation mode in which a vehicle is operated manually by a driver. During an operation in an autonomous operation mode, switching from the autonomous operation mode to the manual operation mode is prohibited in a case where a quick reaction capability of the driver to vehicle operation does not satisfy a predetermined condition. The quick reaction capability of the driver is represented by a quick reaction capability score that is obtained by the driver monitoring device. With this configuration, it is possible to provide a vehicle in which switching an operation mode from an autonomous operation mode to a manual operation mode is allowed only when it is appropriate to do so, based on the quick reaction capability of a driver.

The driver monitoring device obtains a quick reaction capability score from a learning model that outputs the quick reaction capability score in response to an input of an image of a driver seated in a vehicle seat. The learning model is generated using a known machine learning algorithm such as a neural network. A training data that is input to the machine learning algorithm can be generated by associating a quick reaction capability score with each of images of a driver seated in a vehicle seat in various situations. The images of a

driver are taken by a camera, for example, that is positioned so as to take an image of a driver seated in a vehicle seat.

The quick reaction capability score in this case is a numeric parameter between 0 to 10. Each of the images of a driver in various types of behavior is manually evaluated, and then a quick reaction capability score is set for each of the images. For example, when a driver is "holding a steering wheel," "operating a meter," "operating a navigation system" or the like, it is determined that the driver is ready for vehicle operation and a high numeric parameter is assigned to the image. Meanwhile, when a driver is "chatting," "smoking," "eating," "talking on the phone," "using a cell phone," or the like, it is determined that the driver is not ready for vehicle operation and a low numeric parameter is assigned to the image. The quick reaction capability score may differently be assigned depending on each specific situation, even for a similar behavior. For example, the quick reaction capability score may differently be assigned for "holding a steering wheel" or "chatting" depending on a driver's face direction, face expression, or the like. Similarly, the quick reaction capability score may differently be assigned for "eating" depending on a food.

Note:

In this case, it is assumed that, in view of a common general technical knowledge at the time of filing, a person skilled in the art can presume a certain relation such as a correlation (hereinafter, referred to as a "correlation or the like" in this Case Example) between a driver's behavior that has been taken in an image and a quick reaction capability to vehicle operation.

[Overview of Reason for Refusal]

There is no reason for refusal is found.

Notes

- Article 36(4)(i) (Enablement Requirement)

The description discloses (i) using multiple images of a driver seated in a vehicle seat that have been taken by a camera positioned so as to take images of the driver in various behaviors and (ii) using a quick reaction capability score based on numeric parameters that have manually been assigned to the taken images.

Further, the description discloses examples of a driver's behavior in an image and a corresponding numeric parameter. It can be presumed that, in view of a common general technical knowledge at the time of filing, there is a correlation or the like between a driver's behavior seen in an image and a quick reaction capability of the driver.

It is also a common general technical knowledge for a person skilled in the art at the time of filing that a learning model can be generated that estimates an output in response to an input through machine learning with a training data containing an input data and output

data having a correlation or the like with each other, using a generally-used machine learning algorithm.

In view of the above, a learning model can be generated using a universal machine learning algorithm with a training data containing images of a driver and numeric parameters that have manually been assigned to the images through evaluation on each image. Accordingly, it is obvious for a person skilled in the art that an autonomous vehicle can be derived that (i) obtains a quick reaction capability score representing a quick reaction capability of the driver during vehicle operation from the above-mentioned learning model, and (ii) prohibits switching from an autonomous operation mode in which a vehicle is operated automatically to a manual operation mode in which a vehicle is operated manually by a driver, in a case where the obtained quick reaction capability score does not satisfy a predetermined condition.

Therefore, an "autonomous vehicle" in Claim 1 is disclosed in the description in a manner that a person skilled in the art can make and use the vehicle. In other words, the description provides a clear and sufficient disclosure for a person skilled in the art to carry out the invention.

[Case 49]

Title of the Invention

BODY WEIGHT ESTIMATION SYSTEM

What is claimed is:

[Claim 1]

A body weight estimation system comprising:

a model generation means for generating an estimation model that estimates a body weight of a person based on a feature value representing a face shape and a body height of the person, through machine learning using training data containing feature values representing face images as well as actual measured values of body heights and body weights of people;

a reception means for receiving an input of a face image and body height of a person;

a feature value obtainment means for obtaining a feature value representing a face shape of the person through analysis of the face image of the person that has been received by the reception means; and

a processing means for outputting an estimated value of a body weight of the person based on the feature value representing the face shape of the person that has been received by the feature value obtainment means and the body height of the person that has been received by the reception means, using the generated estimation model by the model generation means.

[Claim 2]

The body weight estimation system as in Claim 1, wherein the feature value representing a face shape is a face-outline angle.

Overview of the Description

It is an object of the present invention to provide a body weight estimation system that can conveniently be used outside without a body weight scale.

There is a certain degree of correlation between a face feature and physical size of a person. As seen in Fig. 1, the inventor found a statistically significant correlation between a cosine of a face-outline angle and BMI (defined as a body weight divided by the square of a body height) of a person. The face-outline angle here means an angle defined between a tangent line to a jaw and a tangent line to a cheek. As seen in Fig. 2, data plots can be approximated by a linear function in the coordinate system in which the horizontal axis represents BMI and the vertical axis represents a cosine of a face-outline angle.

This suggests a certain degree of correlation between a body height and weight used for BMI calculation and a face-outline angle. Accordingly, an estimation model with a highly accurate output can be generated through machine learning, using a known machine

learning algorithm such as a neural network with a training data. The training data contains actual measured values of face-outline angles, body heights, and body weights. The face-outline angles are obtained through analysis on face images of people.

A feature value representing a face shape of a person is a face-outline angle in this embodiment, but it is not limited to this. Any feature value representing a face shape may be obtained from a face image and used.

Note:

In this case, it is assumed that, even in view of a common general technical knowledge at the time of filing, a person skilled in the art can presume a certain relation such as a correlation (referred to as "correlation or the like" in this Case Example) between (i) a body height, weight, and the like of a person and BMI based on these and (ii) a feature representing a face shape such as a face-outline angle is not a common general technical knowledge at the time of filing here.

Figures

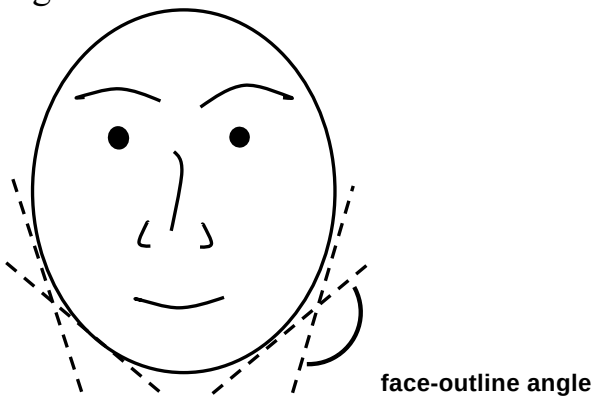


Fig. 1

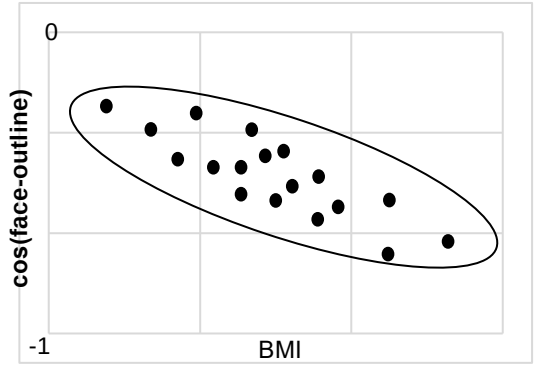


Fig. 2

Overview of Reason for Refusal

- Claim 1: Article 36(6)(i) (Support Requirement)/Article 36(4)(i) (Enablement Requirement)
- Claim 2: There is no reason for refusal found.

- Article 36(6)(i) (Support Requirement)/Article 36(4)(i) (Enablement Requirement): Claim 1

The description discloses that (i) a feature value representing a face shape of a person is a face-outline angle, which is defined between a tangent line to a jaw and a tangent line to a cheek, and (ii) there is a statistically significant correlation between a cosine of a face-outline angle and BMI (defined as a body weight divided by the square of a body height) of a person.

However, the description only discloses that any feature value other than a face-outline angle representing a face shape may be obtained from a face image and used. It does not disclose a correlation or the like between (i) a feature value other than a face-outline angle representing a face shape and (ii) a body height, weight, and the like of a person and BMI based on these. Further, it cannot be presumed that there is such a correlation or the like even if a common general technical knowledge at the time of filing is taken into consideration. There is no performance evaluation result disclosed on an estimation model that has actually been generated using a feature value other than a face-outline angle representing a face shape.

Accordingly, the description does not provide a sufficient disclosure for a person skilled in the art to recognize that a body weight estimation can be attained based on a body height and any feature value representing a face shape. In other words, the scope of the description cannot be expanded or generalized to that of the invention of Claim 1, in which an input to an estimation model that outputs an estimation value of a body weight is specified only by a body height and a feature value representing a face shape in a face image of a person.

Thus, the scope of the invention of Claim 1 exceeds that of the description.

In view of the disclosure in the description and a common general technical knowledge at the time of filing as explained above, it does not seem that a person skilled in the art can make a body weight estimation system that estimates a body weight of a person in response to an input of a body height and a feature value representing a face shape of a person, by generating an estimation model using a universal machine learning algorithm with a training data containing actual measured values of body weights, body heights, and feature values representing face shapes of people.

Therefore, a "body weight estimation system" in Claim 1 is not disclosed in the description in a manner that a person skilled in the art can make and use the system. In other words, the description does not provide a clear and sufficient disclosure for a person skilled in the art to carry out the invention.

Notes

Claim 2

The description discloses that there is a statistically significant correlation between a cosine of a face-outline angle and BMI of a person.

Based on the disclosure in the description, a person skilled in the art can recognize that there is a certain degree of correlation between a body height and weight and a face-outline angle, and can generate an estimation model using a universal machine learning algorithm with a training data containing actual measured values of body heights, body weights, and face-outline angles. Accordingly, a body weight estimation system can be

made that estimates a body weight of a person in response to an input of a face-outline angle and a body height of a person, using the above estimation model.

Therefore, the description discloses a "body weight estimation system" in Claim 2 in a manner that a person skilled in the art can make and use the system. In other words, the description provides a clear and sufficient disclosure for a person skilled in the art to carry out the invention.

Further, the invention of Claim 2 is disclosed in the description and Claim 2 satisfies the support requirement.

Measures to be Taken by the Applicant

The applicant can overcome the reason for refusal by an amendment deleting Claim 1 and leaving only Claim 2.

[Case 50]

Title of the Invention

METHOD FOR ESTIMATING ALLERGY INCIDENCE RATE OF TEST SUBSTANCE

What is claimed is:

[Claim 1]

A method for estimating an allergy incidence rate of a test substance in a human being comprising:

inputting a training data to an artificial intelligence model to train the model, the training data including a group of data representing a shape change of a human X cell in culture solution and a scoring data on incidence rates of human allergic reaction caused by each substance, in which each of the substances is separately added to the culture solution and the incidence rates of human allergic reaction caused by each of the substances are already known;

obtaining a group of data representing a shape change of a human X cell that has been measured in culture solution to which a test substance is added;

inputting, to the trained artificial intelligence model, the group of data representing a shape change of a human X cell that has been measured in the culture solution to which the test substance is added; and

causing the trained artificial intelligence model to calculate a scoring data of an incidence rate of human allergic reaction.

[Claim 2]

The method for estimating an allergy incidence rate as in Claim 1, wherein the group of data representing a shape change of a human X cell is a combination of a shape change in an ellipticity, rugosity, and oblateness of the human X cell; and the allergic reaction is contact dermatitis.

Overview of the Description

The present invention relates to a method for estimating an allergy incidence rate of a test substance in a human being, using a trained artificial intelligence model. It is an object of the invention to prevent loss in selecting a candidate substance, through an estimation of an incidence rate of human allergic reaction of a test substance at an early stage in selecting a candidate substance.

An embodiment discloses an experimental result verified by (i) adding each of candidate substances, of which contact dermatitis incidence rate is known, is separately added to culture solution for a human X cell, (ii) obtaining a group of data representing a shape change of a human X cell in the culture solution in an ellipticity, rugosity, and

oblateness between before and after the addition; inputting, to a universal artificial intelligence model, a training data to train the model including the above-mentioned 3 types of data in the shape change and a scoring data on incidence rates of contact dermatitis caused by each of the substances so as to train the model; each of substances that has not been used for the training of the artificial intelligence model, of which contact dermatitis incidence rate is known, is separately added to culture solution for a human X cell; obtaining a group of data representing a shape change of a human X cell in the culture solution in an ellipticity, rugosity, and oblateness between before and after the addition; inputting the obtained group of data to the trained artificial intelligence model; and calculating a scoring data on contact dermatitis incidence rates that is estimated by the artificial intelligence. The experimental result shows that, for ○% or more of the candidate substances, the difference between the estimated score and the actual score was equal to or less than ○%.

Note:

In this case, it is assumed that, even in view of a common general technical knowledge at the time of filing, a person skilled in the art can presume a certain relation such as a correlation (hereinafter, referred to as a "correlation or the like") between an allergy incidence rate and a shape change of a cell.

[Overview of Reason for Refusal]

- Claim 1: Article 36(6)(i)(support requirement) / Article 36(4)(i)(enablement requirement)
- Claim 2: None

Claim 1: Article 36(6)(i) (support requirement) / Article 36(4)(i) (enablement requirement)

Claim 1 discloses a method for estimating an allergy incidence rate that is specified only by a training data including a group of data representing a shape change of a human X cell and a scoring data on incidence rates of human allergic reaction. The description only discloses some specific examples of training data that could be used for an incidence rate estimation of allergic reaction, namely, a combination of an ellipticity, rugosity, and oblateness of a human X cell, and a scoring data on incidence rates of contact dermatitis.

A shape change of a human X cell can be represented by various parameters in addition to the ellipticity, rugosity, and oblateness. However, it is difficult to know the parameters that lead to an incidence rate estimation of allergic reaction other than the combination of these three factors, because it is difficult to presume a correlation or the like between an allergic reaction incidence rate and a cell shape change even if a common general technical knowledge at the time of filing of the present invention is taken into consideration. Meanwhile, it is a common general technical knowledge that an antibody or cell associated with allergic reaction and a development mechanism varies among many types of allergic

reaction including contact dermatitis. Accordingly, there is no reasonable ground to consider that an incidence rate of a different type of allergic reaction can also be estimated.

It is not possible to find a ground to expand or generalize the disclosed matters in the description to the scope of the invention as in Claim 1, in which an input to an artificial intelligence model that calculates a scoring data of incidence rates of allergic reaction is specified only by a group of data representing a shape change of a human X cell and a scoring data on incidence rates of allergic reaction.

Thus, the scope of the invention as in Claim 1 exceeds the scope disclosed in the description.

In view of the disclosure in the description and the common general technical knowledge at the time of filing, it does not seem that the invention is sufficiently disclosed for a person skilled in the art to recognize that an allergic reaction incidence rate can be estimated through a method for estimating an allergy incidence rate, which uses a training data including a group of data representing a shape change of a human X cell other than the combination of a shape change in an ellipticity, rugosity, and oblateness, and a scoring data on known incidence rates of human allergic reaction other than contact dermatitis.

Therefore, the description does not provide a clear and sufficient disclosure of the invention of a "method for estimating an allergy incidence rate of a test substance in a human being" as in Claim 1 in a manner that a person skilled in the art can carry out the invention.

Notes

Claim 2

The description discloses that inputting, to an artificial intelligence model to train the model, a training data including: a group of data representing a known shape change of a human X cell in each known substance, with which known incidence rates of contact dermatitis is associated, respectively, containing a combination of the ellipticity, rugosity, and oblateness; and a scoring data on the known incidence rates of human contact dermatitis for each of the known substances. Further, the description discloses the fact that the trained artificial intelligence model could actually estimate an incidence rate of contact dermatitis with a certain accuracy, using data that had not been used to train the artificial intelligence model.

Thus, the description provides a clear and sufficient disclosure of the invention as in Claim 2, which is a method for estimating a contact dermatitis incidence rate of a test substance in a human being using an artificial intelligence model, in a manner that a person skilled in the art can carry out the invention. In other words, the description satisfies the enablement requirement for Claim 2.

Therefore, the invention as in Claim 2 is sufficiently disclosed in the description and thus satisfies the support requirement.

Measures to be taken by the Applicant

The applicant can overcome the reason for refusal by an amendment deleting Claim 1 and leaving only Claim 2.

[Case 51]

Title of the Invention
ANAEROBIC ADHESIVE COMPOSITION

What is claimed is:
[Claim 1]
An anaerobic adhesive composition comprising:
a 0.08 - 3.2 mass % compound A,
a 0.001 - 1 mass % compound B, and
a residue containing an anaerobically curable (meth)acrylate monomer,
wherein the anaerobic adhesive composition shows the curing strength equal to or exceeding 30 % of the curing strength after 24 hours have passed, within 5 minutes from the start of curing.

Overview of the Description
Conventionally, various combinations of a free radical initiator and a free radical reducing agent have been used for a curing system to enhance the cure rate of an anaerobic adhesive composition. Nevertheless, any optimal combination has not been found among numerous combinations, which realizes the curing strength equal to or exceeding 30 % of the curing strength after 24 hours have passed, within 5 minutes from the start of curing.
It is an object of the present invention to provide an anaerobic adhesive composition with an optimal component that shows the curing strength equal to or exceeding 30 % of the curing strength after 24 hours have passed, within 5 minutes from the start of curing.
In an embodiment, in order to derive an anaerobic adhesive composition attaining such an object, a conventionally known component data of an anaerobic adhesive composition, a curing strength data within 5 minutes from the start of curing, and a curing strength data after 24 hours have passed were input to a neural network; and then a trained model was prepared in a manner that a component of the anaerobic adhesive composition and a ratio between the curing strength within 5 minutes from the start of curing and the curing strength after 24 hours have passed were associated with each other. Further, an estimation result is disclosed showing the possibility where an anaerobic adhesive composition containing an anaerobically curable (meth)acrylate monomer can be obtained using the trained model, which realizes the curing strength equal to or exceeding 30% of the curing strength after 24 hours have passed within 5 minutes from the start of curing, by adding a 0.08 - 3.2 mass % compound A and a 0.001 - 1 mass % compound B in combination.

Notes
The description does not disclose any embodiment in which an anaerobic adhesive composition is actually produced within the above combination ratio and then the curing

strength is measured. Further, there is no verification shown on the estimation accuracy of the trained model. Furthermore, it is not known that the curing strength is enhanced within 5 minutes after the start of curing, by adding any one of a compound A, a compound B, and the combination thereof. Meanwhile, a measurement method and condition are specifically disclosed to measure the curing strength within 5 minutes after the start of curing and the curing strength after 24 hours have passed.

It is assumed that it is a common general technical knowledge at the time of filing that it is difficult to control an anaerobic adhesive composition so as to rapidly raise the curing temperature within 5 minutes or so after the start of curing, and that various conditions for production such as a type, combination, or combination ratio of polymer material, free radical initiator, or free radical reducing agent closely interact with each other. Meanwhile, it is not assumed that it is a common general technical knowledge at the time of filing that an estimation result by a trained model can be a substitution for an actual experimental result.

Overview of Reason for Refusal

・ Claim 1: Article 36(4)(i) (enablement requirement) / Article 36(6)(i) (support requirement)

It is the common technical knowledge at the time of filing that it is difficult to control an anaerobic adhesive composition so as to rapidly raise the curing temperature within 5 minutes or so after the start of curing, and that various conditions for production such as a type, combination, or combination ratio of polymer material, free radical initiator, or free radical reducing agent closely interact with each other.

The description only discloses that a trained model predicted that, as long as a composition meets the combination ratio prescribed in Claim 1, the composition has the curing strength equal to or exceeding 30% of the curing strength after 24 hours have passed, within 5 minutes from the start of curing. Further, the accuracy of an estimation value by the trained model is not verified, and there was no such a common technical knowledge at the time of filing that an estimation result by a trained model can be a substitution for an actual experimental result.

Any embodiment is not disclosed supporting the fact that the claimed composition shows the curing strength equal to or exceeding 30 % of the curing strength after 24 hours have passed within 5 minutes from the start of curing, by actually producing a composition including a 0.08 - 3.2 mass % compound A, a 0.001 - 1 mass % compound B, and a residue containing an anaerobically curable (meth)acrylate monomer, and then measuring the curing strength.

Thus, it does not seem that the description provide a sufficient disclosure of the invention in a manner that a person skilled in the art can produce the anaerobic adhesive composition as in Claim 1 that shows the curing strength equal to or exceeding 30 % of the curing strength after 24 hours have passed, within 5 minutes from the start of curing.

Therefore, the description does not provide a clear and sufficient disclosure so as to

enable a person skilled in the art to carry out the invention as in Claim 1, in which an anaerobic adhesive composition comprises a 0.08 - 3.2 mass % compound A, a 0.001 - 1 mass % compound B, and a residue containing an anaerobically curable (meth)acrylate monomer, and the curing strength of the composition is equal to or exceeds 30% of the curing strength after 24 hours have passed, within 5 minutes from the start of curing.

Claim 1 discloses an invention of an anaerobic adhesive composition comprising a 0.08 - 3.2 mass % compound A, a 0.001 - 1 mass % compound B, and a residue containing an anaerobically curable (meth)acrylate monomer, in which the curing strength of the composition is equal to or exceeds 30% of the curing strength after 24 hours have passed, within 5 minutes from the start of curing. Meanwhile, in view of the disclosure in the description and the common general technical knowledge at the time of filing, the description does not provide a sufficient disclosure so as to enable a person skilled in the art to recognize that an object of the present invention to provide an anaerobic adhesive composition showing the curing strength equal to or exceeding 30 % of the curing strength after 24 hours have passed within 5 minutes from the start of curing can be attained.

Therefore, the invention as in Claim 1 is not disclosed in the description.

Measures to be taken by the Applicant

Even if the common general technical knowledge is taken into consideration, the description does not provide a sufficient disclosure for a person skilled in the art to recognize that an object of the present invention to provide an anaerobic adhesive composition showing the curing strength equal to or exceeding 30% of the curing strength after 24 hours have passed within 5 minutes from the start of curing can be attained. Further, the description does not provide a clear and sufficient disclosure for such a person to carry out the invention.

Therefore, the insufficient disclosure in the description cannot be overcome and accordingly, the reasons for refusal cannot be overcome, even if the applicant actually produces, after the filing of the present invention, an anaerobic adhesive composition as in Claim 1 and then submits a certificate of experimental results that supports the estimation by the trained model to make an argument that an object of the invention can be attained.

[Case 52]

Title of Invention

Fluorescent Compound

What is claimed is:

[Claim 1]

A fluorescent compound having luminescence properties with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5 μs and equal to or less than 20 μs.

[Claim 2]

The fluorescent compound according to claim 1, wherein the compound is compound A.

[Claim 3]

The fluorescent compound according to claim 1, wherein the compound is compound B.

Overview of the description

Fluorescent compounds are used for light emitting materials of organic EL elements or the like, and various compounds having different chemical structures are known, but one having luminescence properties with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5 μs and equal to or less than 20 μs is not known. The present invention is intended to provide fluorescent compounds with the luminescence properties using machine learning techniques.

The following example 1 describes machine learning.

Example 1: Machine learning was performed using data on the chemical structures of known fluorescent compounds and their luminescence properties as learning data to create a trained model capable of predicting chemical structures from luminescence properties. The above trained model was used to predict the chemical structures of fluorescent compounds having luminescence properties with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5 μs and equal to or less than 20 μs, and then compounds A and B with novel chemical structures were predicted.

The following Example 2 describes compounds predicted by machine learning.

Example 2: A method for producing compound A was provided and compound A was produced according to the method.

The luminescence properties of compound A were measured and the emission peak wavelength was 545 nm and the fluorescence lifetime was 12 μs.

(The applicant argues that the detailed description of the invention specifically states the method for producing and using the machine learning model (Example 1), and the estimation accuracy of the machine learning model is also verified using compounds that were actually produced (Example 2), therefore, a person skilled in the art can produce and use the machine learning model and implement the invention to predict the chemical structure of a fluorescent compound whose emission peak wavelength is equal to or greater than 540 nm and equal to or less than 560 nm and whose fluorescence lifetime is equal to or greater than 5 μs and equal to or less than 20 μs, not limited to compound A. The applicant also argues that compound B can be as effective as compound A because it uses the above model, which has been validated for its estimation accuracy.)

Note:

For compound inventions, in general, it is common general technical knowledge as of the filing that it is relatively difficult to understand how a compound is produced and what kind of activity it has from information about the chemical structural formula. In addition, in the technical field of compounds, it is not common general technical knowledge at the time of filing that an estimation result by a trained model can be a substitution for an actual experimental result.

Then, the chemical structure of compound B is not similar to the chemical structures of compound A and other known compounds, and it is difficult to infer the production method and luminescence properties of compound B from the production methods and luminescence properties of these compounds.

[Overview of Reason for Refusal]

・Claims 1 and 3: Article 36(4)(i) (Enablement Requirement) / Article 36(6)(i) (Support Requirement)

・Claim 2: There is no reason for refusal found.

In Example 2 of the present application, the chemical structure of compound A is shown as a fluorescent compound having luminescence properties (hereinafter, the target luminescence properties) with an emission peak wavelength equal to or greater than 540 nm and equal to or less than 560 nm and a fluorescence lifetime equal to or greater than 5 μs and equal to or less than 20 μs, and a specific example is stated in which the compound was actually produced and confirmed to have the above target luminescence properties.

In addition, Example 1 of the present application states that the chemical structure of compounds with the above target luminescence properties can be predicted using the trained model, not limited to compound A.

However, for compound inventions in general, it is common general technical knowledge at the time of filing that it is relatively difficult to understand what kind of activity a compound has from information about the chemical structural formula, and there was no such common technical knowledge at the time of filing that an estimation result by a trained model can be a substitution for an actual experimental result, and the detailed description of the invention does not verify that the trained model of the present application can predict luminescence properties with high accuracy for compounds other than compound A. Ultimately, the luminescence properties of any compound are unknown unless the luminescence properties are actually measured, and even a person skilled in the art cannot understand whether or not the above predicted compounds other than compound A have the above target luminescence properties, and therefore, with respect to other than compound A, the statement of the description of the invention cannot be deemed to be informative enough to implement the invention of compounds having the above target luminescence properties.

Even if the predicted compounds other than compound A have the target luminescence properties, the methods for producing the compounds with the target luminescence properties other than compound A are not stated in the description, and compound inventions generally belong to the technical field where it is relatively difficult to produce a compound from information about the chemical structural formula. Therefore, it is not considered that a person skilled in the art can produce the compound even if the production method is not indicated in the description; even a person skilled in the art cannot understand the production method of the compound having the above target luminescence property other than compound A, and the production of the compound would require trials and errors and/or complicated and sophisticated experimentation beyond an extent to which a person skilled in the art should be reasonably expected to make.

Therefore, with respect to the inventions of claims 1 and 3, the detailed description of the invention is not clearly and sufficiently stated so as to enable a person skilled in the art to carry out the invention.

As discussed above, even if the common general technical knowledge is taken into consideration, the detailed description of the invention does not state that a person skilled in the art can recognize that the problem of providing a fluorescent compound having the above target fluorescence properties can be solved for the entire fluorescent compound having

luminescence properties with an emission peak wavelength of 540 nm or more and 560 nm or less and a fluorescence lifetime of 5 μs or more and 20 μs or less, and thus the content disclosed in the detailed explanation of the invention cannot be expanded or generalized to the inventions of claims 1 and 3.

Therefore, the inventions of claims 1 and 3 are not stated in the detailed description of the invention.

These cases explain the determination of the subject description requirements (enablement requirement and support requirement) and the measures of the applicant, but do not explain the determination of other requirements such as clarity, or the measures of the applicant.

In addition, the difficulty of specifically understanding a compound specified only by the target luminescence properties is common general technical knowledge at the time of filing. In view of this common general technical knowledge, it should also be noted that clarity is denied if it is clear that the chemical structure, etc., necessary to have the above properties is not specified and the "compound" specified only by the above properties is not sufficiently defined in technical terms (see (2) of Part II, Chapter 2, Section 3, 4.1.1 "Types of unclear inventions" in the Examination Guidelines).

[Remarks]

・Claim 2

The detailed description of the invention shows the method for producing compound A, and states that compound A was produced according to the method, and the luminescence properties of compound A were measured: the emission peak wavelength was 545 nm and the fluorescence lifetime was 12 μs (Example 2).

Thus, the detailed description of the invention clearly and sufficiently states the invention of claim 2 so as to enable a person skilled in the art to carry out the invention of claim 2, and the detailed description of the invention satisfies the enablement requirement with respect to claim 2.

In addition, the invention of claim 2 is stated in the detailed description of the invention, and claim 2 satisfies the support requirement.

[Measures of the applicant]

The insufficient disclosure in the detailed description of the invention cannot be overcome and accordingly, the reasons for refusal cannot be overcome, even if the applicant actually produces, after the filing of the present invention, the fluorescent compound of the invention of claim 3 and then submits a certificate of experimental results that supports the estimation by the trained model to make an argument that an object of the invention can be

attained. (See Examination Guidelines, Part II, Chapter I, Section 1, Enablement Requirement, "4.2 Arguments and/or explanation, etc. by applicant".) The same applies to the invention of claim 1, which includes claim 3.

Therefore, the applicant can overcome the reasons for refusal by deleting claims 1 and 3 and maintaining only claim 2.

[Case 53]

Title of Invention

Method for Generating Images for Training Data

What is claimed is:

[Claim 1] (“The content of training data for machine learning” is limited, but not “the AI subject to machine learning”)

A method for generating composite images, comprising a step of obtaining radiological images including the human body and surgical instrument images indicating surgical instruments; and

a step of generating composite images by combining the surgical instrument images with the radiological images, performed by an image generation device.

[Claim 2] (“The AI subject to machine learning” is limited, but not “the content of the training data for machine learning”)

A method for generating images for training data for training a discriminator that determines the area of surgical instruments in target images when the target images are input,

the method comprising a step of obtaining a first image and a second image which are radiological images;

and a step of generating images for training data corresponding to the target images by combining the second image with the first image, performed by an image generation device for training data.

[Claim 3] (Both “the content of training data for machine learning” and “the AI subject to machine learning” are limited)

A method for generating images for training data for training a discriminator that determines the area of surgical instruments in target images when the target images are input,

the method comprising a step of obtaining radiological images including the human body and surgical instrument images indicating surgical instruments;

and a step of generating images for training data corresponding to the target images by combining the surgical instrument images with the radiological images, performed by an image generation device for training data.

Overview of the description

[Technical field]

The invention relates to a method for creating images for training data for constructing a discriminator that determines the area of surgical instruments in input radiological images by machine learning.

[Background Art]

When performing surgical procedures on patients, various surgical instruments are used, such as gauze to control bleeding, sutures, and needles to close wounds or incisions. Such surgical instruments can cause serious complications if left in the patient's body after surgery. Therefore, it is necessary to ensure that no surgical instruments remain in the patient's body after surgery.

Conventionally, radiological images are taken of the patient after surgery, and the surgeon or nurse visually checks to see if gauze or other surgical instruments remain in the patient's body.

However, after a long surgery, both the surgeon and the nurses are tired and may miss the surgical instruments left behind.

Therefore, in order to assist surgeons and nurses, it was desired to construct a discriminator to which radiological images of patients are input to automatically determine the area of surgical instruments in the input radiological images.

[Problems to be Solved by the Invention]

A large amount of training data must be collected to create a discriminator as described above by machine learning, but actual radiological images in which surgical instruments such as gauze remain in the patient's body are extremely rare, making it difficult to collect a large amount of training data.

The present invention has been conceived in view of such situation and aims to easily create a sufficient number of images for training data to train a discriminator that determines the area of surgical instruments in input radiological images including the human body.

[Means for Solving the Problem]

In the present invention, the images for training data T0 for training the above discriminator are generated by obtaining radiological images G0 including the human body and surgical instrument images M0 indicating surgical instruments, and combining the obtained radiological images G0 and surgical instrument images M0.

[Effect of Invention]

A sufficient number of images for training data T0 can be easily prepared to train the above discriminator, and as a result, a discriminator with high detection accuracy of surgical instruments can be constructed.

[Mode for carrying out the invention]

The image processing device of the present invention comprises an image acquisition unit, a composition unit, a learning unit, a detection unit, and a display control unit.

The image acquisition unit obtains radiological images G0, including any subject, from an image storage system via the I/F network to generate images for training data T0.

The image acquisition unit also obtains surgical instrument images M0 indicating surgical instruments from the image storage system to generate the images for training data T0. The surgical instrument image M0 is, for example, a three-dimensional image that indicates surgical instruments and is created using computer graphics or the like.

When target radiological images G1 are input, the composition unit combines the radiological images G0 and the surgical instrument images M0, thereby generating images for training data T0 for training a discriminator that determines the area of surgical instruments in the radiological images G1. The composition unit combines the radiological images G0 and the surgical instrument images M0 to generate the images for training data T0.

The composition unit also generates a plurality of images for training data T0 by combining the surgical instrument images M0, whose position, angle and size are modified, with the radiological images G0 for training the discriminator described below. This generates images for training data T0, in which the surgical instrument images M0 are combined with the radiological images G0 as if they were radiographed.

The learning unit trains the discriminator to determine the area of surgical instruments in the input radiological images using the training data including the images for training data T0 and the correct data in which the area of surgical instruments in the images for training data T0 is identified, and the training data consisting of the radiological images without surgical instruments. A sufficient number of images are prepared as training data for machine learning.

As a discriminator, machine learning models can be used. Examples of machine learning models include a neural network model. A convolutional neural network is used as the discriminator in the embodiment.

The discriminator is trained to output, when the images for training data T0 contained in the training data are input, the probability that each pixel in the images for training data T0 is the area of surgical instruments.

The trained discriminator is applied to the detection unit. When the target radiological images G1 are input to the detection unit, the discriminator extracts the area of surgical instruments contained in the radiological images G1 to be detected to detect the area of surgical instruments.

The display control unit shows the radiological images G1 on the display, highlighting the area of surgical instruments detected by the detection unit from the radiological images G1 to be detected.

Any surgical instrument used in surgery, such as suture needles, gauze, scalpels, scissors, drains, sutures, forceps, and stent grafts, may be subject to surgical instrument detection.

[Overview of Reason for Refusal]
Claim 1-2: Article 36(6)(i) (Support requirement)

Claim 3: There is no reason for refusal found.

The problem stated in the detailed description of the invention is merely to easily create a sufficient number of images for training data to train a discriminator to determine the area of surgical instruments in input radiological images including the human body. The detailed description of the invention states that "images for training data are created by combining radiological images including the human body and surgical instrument images indicating surgical instruments" to "use the images for training data for training a discriminator that determines the area of surgical instruments in the input radiological images" as a means to solve the problem.

However, claim 1 merely states the content of the images to be combined (combining radiological images including the human body and surgical instrument images indicating surgical instruments) and does not specify in any way that the resulting combined images are used to train the discriminator, and thus does not reflect the means for solving the problem of the invention.

Furthermore, while claim 2 states that the combined images for training data are used to train the discriminator, it does not specify the content of the images combined to create the images for training data. For example, it is clear that the problem of the invention of "easily creating a sufficient number of images for training data to train a discriminator that determines the area of surgical instruments in input radiological images including the human body" can only be solved by a method of combining radiological images including the human body and surgical instrument images, and thus the means for solving the problem of the invention is not reflected.

Thus, the inventions of claims 1-2 exceed the scope stated in the detailed description of the invention.

[Remarks]

Claim 3

Claim 3 specifies that "images for training data are generated by combining radiological images including the human body and surgical instrument images indicating surgical instruments" to "use the images for training data to train the discriminator that determines the area of surgical instruments in the input radiological images" and thus reflects the means for solving the problem of the invention.

Therefore, the invention of claim 3 is stated in the detailed description of the invention, and claim 3 satisfies the support requirement.

[Case 54]

Title of Invention

Screw Clamping Quality Estimation Apparatus

What is claimed is:

[Claim 1]

A machine learning apparatus for training a neural network through machine learning, comprising a machine learning unit that trains a neural network through machine learning by associating a rotation speed of a screwdriver, an angular acceleration of the screwdriver, a position of the screwdriver, an inclination of the screwdriver, and the screw clamping quality clamped by the screwdriver.

[Claim 2]

A machine learning apparatus for training a neural network through machine learning, comprising a machine learning unit that trains a neural network through machine learning by associating a rotation speed of a screwdriver, an angular acceleration of the screwdriver, a position of the screwdriver, and an inclination of the screwdriver as input data with the screw clamping quality clamped by the screwdriver as output data.

Overview of the description

A product that has been assembled through automatic screw clamping operation, carried out by means of a screwdriver is conventionally inspected by an operator to check whether a screw clamping quality meets a predetermined standard. However, this inspection burden the operator with a load and is a bottleneck for the whole process.

Inventors of the present invention found that a behavior of a screwdriver used in automatic screw clamping operation affects a screw clamping quality. In view of this, it is an object of the present invention to achieve a time-saving quality inspection by estimating a screw clamping quality based on a behavior of a screwdriver.

In the present invention, firstly a set of state variables is obtained by measuring a combination of rotation speed, angular acceleration, position, and inclination of a screwdriver used in an automatic screw clamping operation. Next, assessment results by an operator is obtained as a screw clamping quality on a product that has been assembled through the automatic screw clamping operation. Then, a neural network is trained by using a training data including an input data of the set of state variables and an output data of a screw clamping quality at the time of the automatic screw clamping using the set of state variables. The screw clamping quality of a product is estimated through an input of rotation speed, angular acceleration, position, and inclination of the screwdriver at the time of automatic screw clamping operation. A product of which screw clamping quality does not

meet a predetermined standard, if any, is sorted to go on to a re-inspection process of a screw clamping quality by an operator or disposal.

An apparatus of the present invention trains a neural network through machine learning to estimate a screw clamping quality of a product that has been assembled through an automatic screw clamping operation. Conventionally, an inspection by an operator is needed after an automatic screw clamping process, and it burdened an operator with a load. However, the trained neural network though machine learning can be used to estimate a screw clamping quality, allowing for a time-saving inspection.

[Note]

Although the detailed description of the invention does not state a specific correlation between "a rotation speed of a screwdriver," "an angular acceleration of the screwdriver," "a position of the screwdriver," and "an inclination of the screwdriver" with "a screw clamping quality," it can be presumed that there is a correlation between them in view of a common general technical knowledge at the time of filing.

[Overview of Reason for Refusal]
Claim 1: Article 36(6)(i) (Support requirement)
Claim 2: There is no reason for refusal found.

Article 36(6)(i) (Support requirement): Claim 1

The detailed description of the invention merely states that a neural network is trained through the machine learning by using training data having "rotation speed, angular acceleration, position and inclination of a screwdriver" as input data and "screw clamping quality" as output data when an automatic screw clamping operation is performed with the input data, to solve only the problem of achieving a time-saving inspection by estimating a screw clamping quality based on a behavior of the screwdriver.

However, claim 1 does not specify the training data used as input data and used as output data in machine learning, and it includes, for example, a case where a neural network is trained through machine learning using training data; "screw clamping quality" as input data and "rotation speed, angular acceleration, position and inclination of a screwdriver" as output data, and it is obvious that the problem to be solved by the invention cannot be solved in such a case.

Therefore, the means for solving the problem of the invention is not reflected, and thus the invention of claim 1 exceeds the scope stated in the detailed description of the invention.

[Remarks]
Claim 2

Claim 2 is described, including the point where a neural network is trained through machine learning by associating both "rotation speed, angular acceleration, position, and

inclination of a screwdriver" as input data and "screw clamping quality" as output data when an automatic screw clamping operation is performed with the above input data.

Therefore, although the detailed description of the invention does not state a specific correlation between "a rotation speed of a screwdriver," "an angular acceleration of the screwdriver," "a position of the screwdriver," and "an inclination of the screwdriver" with "a screw clamping quality," it can be presumed that there is a correlation between them in view of a common general technical knowledge at the time of filing, and thus the detailed description of the invention can be regarded as disclosing the invention in such a way that a person skilled in the art could recognize that the problem of achieving a time-saving inspection can be solved by the invention of claim 2 by estimating a screw clamping quality based on a behavior of the screwdriver.

Thus, the invention of claim 2 is stated in the detailed description of the invention, and it satisfies the support requirement.

[Measures of the applicant]

The applicant can overcome the reasons for refusal by deleting claim 1 and maintaining only claim 2.

[Case 55]

Title of Invention

Trained Model to Output Content of Work to be Performed in Response to Malfunction

What is claimed is:

[Claim 1](Invention that is subject to a reason for refusal based on a violation of the clarity requirement that the category of the invention is unclear.)

A trained model for estimating a content of a work to be performed in response to a malfunction that has occurred in a copier,

wherein a parameter of the trained model is trained using learning data that maps a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred to label information indicating the content of the work performed by a maintenance manager of the copier for the malfunction,

the trained model receives, as input, the malfunction code indicating the type of malfunction that has occurred in the copier and the occurrence location information indicating the location where the malfunction occurred, and estimates the content of the work to be performed for the malfunction based on the parameter for the input malfunction code and the occurrence location information.

[Claim 2](Invention that is subject to a reason for refusal based on a violation of the clarity requirement in view of Example 2, 1.2.1.3 (1) in Annex B.)

A trained model for causing a computer to output a content of a work to be performed in response to a malfunction that has occurred in a copier,

wherein a parameter of the trained model is trained using learning data that maps a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred to label information indicating the content of the work performed by a maintenance manager of the copier for the malfunction,

the trained model comprises means for receiving, as input, a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred, means for calculating the input malfunction code and the occurrence location information based on the parameter, and means for outputting the content of the work to be performed for the malfunction.

[Claim 3](without a reason for refusal based on a violation of the clarity requirement)

A trained model for outputting a content of a work to be performed in response to a malfunction that has occurred in a copier,

wherein a parameter of the trained model is trained using learning data that maps a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred to label information indicating the content of the work performed by a maintenance manager of the copier for the malfunction,

and the trained model causes a computer to receive, as input, a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred, to calculate the input malfunction code and the occurrence location information based on the parameter, and to output the content of the work to be performed for the malfunction.

Overview of the description

[Background Art]

Copier malfunctions include paper jams, toner depletion, and component failure. Conventionally, when such a malfunction occurs in a copier, the maintenance manager of the copier takes action to resolve the malfunction, and it is difficult for the user of the copier to take appropriate action in response to the malfunction.

[Problems to be Solved by the Invention]

The present invention has been conceived in view of the above problem and aims to appropriately determine and output the content of the work to be performed in response to a malfunction that has occurred in a copier.

[Means for Solving the Problem]

The trained model of the present invention is used to estimate the content of the work to be performed in response to a malfunction that has occurred in a copier, and the trained model may be configured as a program module that is part of artificial intelligence software.

The learning device collects learning data, performs the learning process of the machine learning model based on the learning data, and generates a trained model. The learning data is data that maps a malfunction code indicating the type of malfunction, occurrence location information indicating the location where the malfunction occurred, and label information indicating the content of the work performed by the maintenance manager of the copier on the malfunction to the malfunctions that occurred in the past. The malfunction code is information that indicates the type of malfunction that has occurred in the copier, such as a paper jam, toner depletion, or component failure. The occurrence location information is information that indicates the location where the malfunction occurred, such as the tray of the copier, the printing unit, the reading unit, or the control unit. When a malfunction occurs in a copier, the maintenance manager of the copier confirms the type and location of the malfunction, and performs operations to correct the malfunction, such as removing paper, replacing toner, and replacing components. When the malfunction

is corrected, the maintenance manager inputs the malfunction code indicating the type of malfunction, the occurrence location information indicating the location where the malfunction occurred, and the label information indicating the content of the work performed for the malfunction into the learning device, and then the learning device correlates this input information and collects it as learning data.

The learning device that has collected the learning data learns the parameter of the machine learning model using a known supervised machine learning algorithm, such as a neural network, based on the learning data that maps the malfunction code and occurrence location information as input to the label information as output, and generates a trained model.

The computer incorporated in the copier comprises a CPU and a memory that stores the trained model trained by the learning device, and if the trained model is a program module, the trained model may be stored in the memory. In this case, when a new malfunction occurs in the copier, the computer performs the processing to output the content of the work to be performed for the malfunction according to commands from the trained model stored in the memory based on the malfunction code indicating the type of malfunction and the occurrence location information indicating the location where the malfunction occurred acquired by the malfunction detection sensor of the copier. Specifically, the trained model stored in the memory causes the computer to receive, as input, a malfunction code indicating the type of malfunction and occurrence location information indicating the location where the malfunction occurred, and when the received malfunction code and the occurrence location information are input, to calculate the input malfunction code and the occurrence location information based on a parameter, and to output the content of the work to be performed for the malfunction. The user of the copier can properly handle the copier's malfunction by, for example, performing the work according to the content of the work displayed on the copier's screen.

[Overview of Reason for Refusal]

Article 36(6)(ii) (Clarity Requirement): Claim 1

The trained model of claim 1 is not clear because it cannot be identified whether the invention is an “invention of a product” or an “invention of a method” and the category of the claimed invention is unclear.

(Supplementary Explanation)

Claim 1 does not state at all that the trained model causes the computer to perform multiple functions. The description also states that “the trained model may be configured as a program module that is part of artificial intelligence software” and “the computer incorporated in the copier comprises a CPU and a memory that stores the trained model trained by the learning device, and if the trained model is a program module, the trained

model may be stored in the memory," which describes that the trained model need not necessarily be a program, and even if the description in the drawings and the common general technical knowledge are taken into consideration at the time of filing, it is not clear that the trained model of claim 1 is necessarily a "program" that causes a computer to realize functions, and therefore it is not clear that the invention of claim 1 is an "invention of a product."

On the other hand, although claim 1 states a temporal method of "...receiving, as input, a malfunction code indicating the type of malfunction and occurrence location information" and "estimating the content of the work to be performed for the malfunction based on the parameter for the input malfunction code and the occurrence location information," a "trained model" comprising a "program" which is an "invention of a product" is described at the end of claim 1, and thus it is also not clear that the invention of claim 1 is an "invention of a method."

Therefore, it is not clear whether the trained model of claim 1 is an "invention of a product" or an "invention of a method".

Article 36(6)(ii) (Clarity Requirement): Claim 2

While the trained model according to claim 2 is "for causing a computer to output a content of a work to be performed in response to a malfunction that has occurred in a copier," the detailed description of the invention corresponds to "the trained model is used as a program module or part of a program module that is part of artificial intelligence software," "the computer incorporated in the copier comprises a CPU and a memory that stores the trained model trained by the learning device, and if the trained model is a program module, the trained model may be stored in the memory. In this case, when a new malfunction occurs in the copier, the computer performs the processing to output the content of the work to be performed for the malfunction according to commands from the trained model stored in the memory based on the malfunction code indicating the type of malfunction and the occurrence location information indicating the location where the malfunction occurred acquired by the malfunction detection sensor of the copier," and "specifically, the trained model stored in the memory causes the computer to receive, as input, a malfunction code indicating the type of malfunction and occurrence location information indicating the location where the malfunction occurred, and when the received malfunction code and the occurrence location information are input, to calculate the input malfunction code and the occurrence location information based on a parameter, and to output the content of the work to be performed for the malfunction," and in light of the above description, it is understood that the trained model of claim 2 is a "program" even though the claimed subject matter of claim 2 is described as a "model."

Therefore, in claim 2, it is understood that the "trained model" which is a program comprises "means for input", "means for calculation" and "means for output."

While a “program” causes a computer to function as means, the “program” itself does not function as the “means.” Therefore, it is not possible that the “program” itself is provided with functional means, and the claimed invention cannot be clearly understood.

[Remarks]
Claim 3

While the trained model according to claim 3 is for “causing a computer to receive, as input, a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred, to calculate the input malfunction code and the occurrence location information based on the parameter, and to output the content of the work to be performed for the malfunction,” the detailed description of the invention corresponds to “the trained model is used as a program module or part of a program module that is part of artificial intelligence software,” “the computer incorporated in the copier comprises a CPU and a memory that stores the trained model trained by the learning device, and if the trained model is a program module, the trained model may be stored in the memory. In this case, when a new malfunction occurs in the copier, the computer performs the processing to output the content of the work to be performed for the malfunction according to commands from the trained model stored in the memory based on the malfunction code indicating the type of malfunction and the occurrence location information indicating the location where the malfunction occurred acquired by the malfunction detection sensor of the copier,” and “specifically, the trained model stored in the memory causes the computer to receive, as input, a malfunction code indicating the type of malfunction and occurrence location information indicating the location where the malfunction occurred, and when the received malfunction code and the occurrence location information are input, to calculate the input malfunction code and the occurrence location information based on a parameter, and to output the content of the work to be performed for the malfunction,” and in light of the above description, and in light of the above description, it is clear that the trained model of claim 3 is a “program” even though the claimed subject matter of claim 3 is described as a “model.”

Therefore, the category of the invention of claim 3 is clear as an “invention of product.”

Further, claim 3 states that the “trained model,” which is the “program” “causes a computer to receive, as input, a malfunction code indicating the type of malfunction that has occurred in the copier and occurrence location information indicating the location where the malfunction occurred, to calculate the input malfunction code and the occurrence location information based on the parameter, and to output the content of the work to be performed for the malfunction,” it is clear that the “trained model” causes the computer to function as means.

Therefore, the invention can be clearly identified from the statement of claim 3. Thus, claim 3 satisfies the clarity requirement.

As with the other cases listed in "1. Cases pertinent to Description Requirements (Article 36 of the Patent Act)," this case explains the determination on the subject description requirements, or measures of the applicant, and does not explain the determination on other requirements such as eligibility for patent, novelty, and inventive step or measures of the applicant.

In addition, it should be noted that inventive step is generally denied in cases where the claimed invention is a "simple systematization of human tasks using artificial intelligence." (See e.g. Case 33 and Claim 1 of Case XX in "5. Cases pertinent to Inventive Step (Article 29(2) of the Patent Act)").

[Measures of the applicant]

Therefore, the applicant can overcome the reasons for refusal based on a violation of the clarity requirement by deleting claims 1 and 2 and maintaining only claim 3.