

Appeal Decision

Appeal No. 2020-5696

Appellant Nissan Chemical Corporation

Patent Attorney EIMEI INTERNATIONAL PATENT OFFICE

The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2016-532977, entitled "Charge-Transporting Varnish" (International Publication No. WO2016/006673 published on January 14, 2016) has resulted in the following appeal decision:

Conclusion

The appeal of the case was groundless.

Reason

1. History of the procedures

The application was originally filed on July 10, 2015 (Priority Date: July 11, 2014). A notice of reasons for refusal was issued on April 3, 2019. A written opinion was submitted on May 23, 2019. A notice of reasons for refusal was issued on September 26, 2019. A written opinion was submitted on November 15, 2019. A notice of reasons for refusal was issued on January 28, 2020. A written opinion was submitted on March 26, 2020 and a written amendment was submitted at the same time. An examiner's decision of refusal was issued on April 16, 2020 (hereinafter, referred to as "Examiner's decision"). In response to this, an appeal against the examiner's decision of refusal was made on April 27, 2020.

2. Outline of the examiner's decision

An outline of reasons for refusal stated in the examiner's decision is as follows: The inventions recited in Claims 1 and 7 to 10 of the present application are identical to the inventions disclosed in Cited Application 1. The inventions recited in Claims 1 and 7 to 10 of the present application are identical to the inventions disclosed in Cited Application 2. The inventions recited in Claims 1 and 4 to 10 of the present application are identical to the inventions disclosed in Cited Application 3. Therefore, the Appellant should not be granted a patent for the Invention under the provisions of Article 39(1) of

the Patent Act.

Cited Application 1: Japanese Patent Application No. 2015-506757

(Japanese Patent No. 6004083)

Cited Application 2: Japanese Patent Application No. 2015-502871

(Japanese Patent No. 6048571)

Cited Application 3: Japanese Patent Application No. 2013-534697

(Japanese Patent No. 5761357)

3. Subject Patented Invention

The inventions recited in Claims 1 to 11 of the present application are inventions as specified by the matters stated in Claims 1 to 11 in the Scope of Claims, which have been amended by the procedures of amendment as of March 26, 2020, and the invention recited in Claim 1 (hereinafter, referred to as "the Invention") is as follows:

"[Claim 1]

A charge-transporting varnish comprising a charge-transporting substance, a dopant substance, and one or more of organic solvents, wherein

the charge-transporting substance contains at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine."

4. Cited applications

(1) Cited Application 1

A Japanese Patent Application No. 2015-506757 cited in the reasons for refusal stated in the examiner's decision (hereinafter, referred to as "Cited Application 1") was filed on March 17, 2014 (priority date: March 18, 2013) as an international filing date before the priority date of the present application, the patent fee thereof was paid on August 22, 2016, and the establishment of a patent right was registered on September 16, 2016 (the gazette containing Japanese Patent No. 6004083 was filed on October 5, 2016).

Therefore, Cited Application 1 was filed prior to the present application.

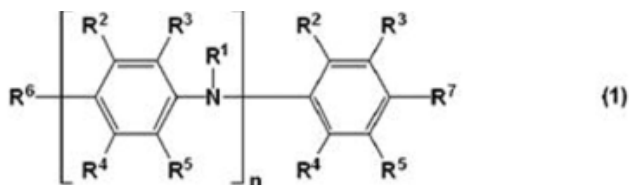
B Claims 1 and 8 in the Scope of Claims of Cited Application 1 state as follows:

"[Claim 1]

A charge-transporting varnish comprising a charge transporting material composed of an oligoaniline derivative represented by formula (1), a charge transporting material composed of an N,N'-diaryl benzidine derivative represented by

formula (2), a dopant, and an organic solvent.

[Chemical 1]



(In the formula, R^1 independently represents a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, an alkenyl group having 2 to 20 carbon atoms, or an alkynyl group having 2 to 20 carbon atoms, which may be substituted with Z^1 , or an aryl group having 6 to 20 carbon atoms or a heteroaryl group having 2 to 20 carbon atoms, which may be substituted with Z^2 ;

each of R^2 to R^7 independently represents a hydrogen atom, a halogen atom, a nitro group, a cyano group, an amino group, an aldehyde group, a hydroxyl group, a thiol group, a sulfonic acid group, a carboxylic acid group, an alkyl group having 1 to 20 carbon atoms or an alkenyl group having 2 to 20 carbon atoms, or an alkynyl group having 2 to 20 carbon atoms, which may be substituted with Z^1 , an aryl group having 6 to 20 carbon atoms or a heteroaryl group having 2 to 20 carbon atoms, which may be substituted with Z^2 , or a $-NHY^1$, $-NY^2Y^3$, $-C(O)Y^4$, $-OY$, $-SY^6$, $-SO_3Y^7$, $-C(O)OY^8$, $-OC(O)Y^9$, $-C(O)NHY^{10}$, or $-C(O)NY^{11}Y^{12}$ group;

each of Y^1 to Y^{12} independently represents an alkyl group having 1 to 20 carbon atoms or an alkenyl group having 2 to 20 carbon atoms, or an alkynyl group having 2 to 20 carbon atoms, which may be substituted with Z^1 , or an aryl group having 6 to 20 carbon atoms or a heteroaryl group having 2 to 20 carbon atoms, which may be substituted with Z^2 ;

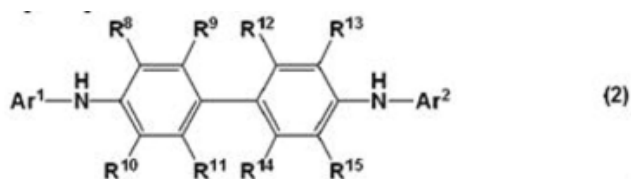
Z^1 represents a halogen atom, a nitro group, a cyano group, an amino group, an aldehyde group, a hydroxyl group, a thiol group, a sulfonic acid group, a carboxylic acid group, or an aryl group having 6 to 20 carbon atoms or a heteroaryl group having 2 to 20 carbon atoms, which may be substituted with Z^3 ;

Z^2 represents a halogen atom, a nitro group, a cyano group, an amino group, an aldehyde group, a hydroxyl group, a thiol group, a sulfonic acid group, a carboxylic acid group, or an alkyl group having 1 to 20 carbon atoms or an alkenyl group having 2 to 20 carbon atoms, which may be substituted with Z^3 ;

Z^3 represents a halogen atom, a nitro group, a cyano group, an amino group, an aldehyde group, a hydroxyl group, a thiol group, or a sulfonic acid group; and

n represents an integer of 2 to 20.)

[Chemical 2]



[In the formula, each of R⁸ to R¹⁵ independently represents a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, an alkenyl group having 2 to 20 carbon atoms, or an alkynyl group having 2 to 20 carbon atoms; and

each of Ar¹ and Ar² independently represents formula (3) or formula (4).

[Chemical 3]



(3)



(4)

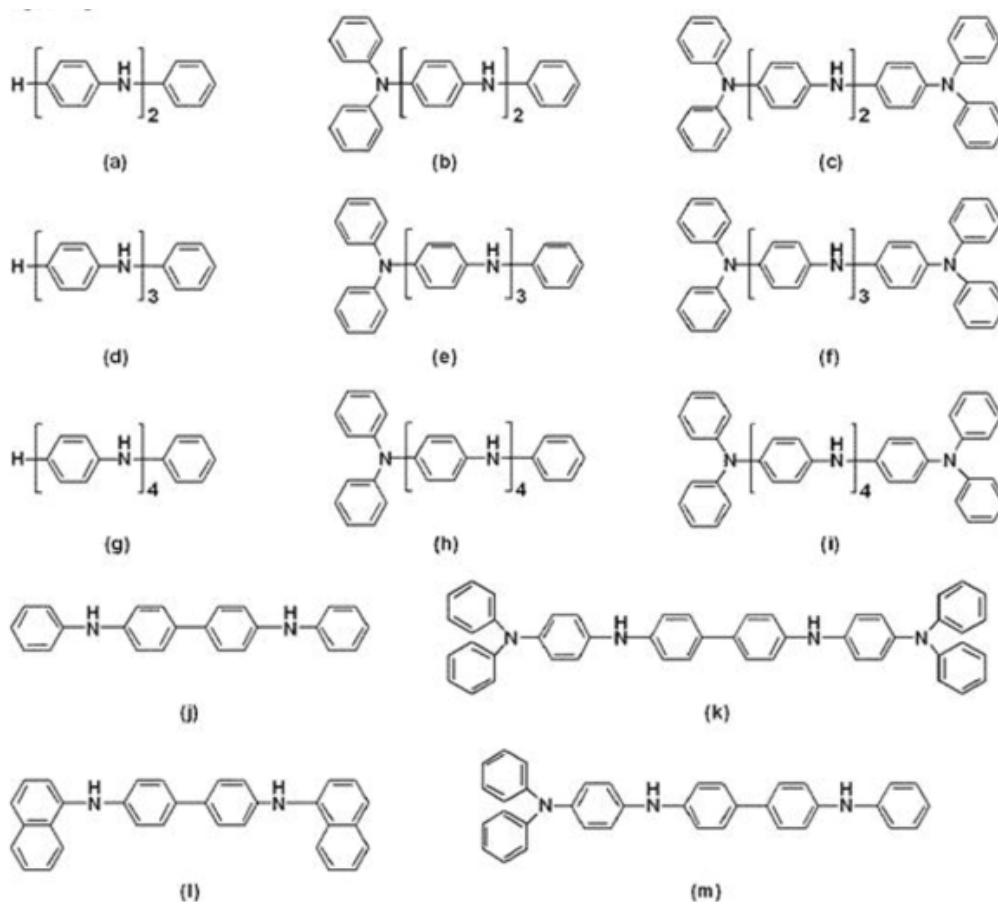
(In the formula, each of R¹⁶ to R²⁵ independently represents a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, an alkenyl having 2 to 20 carbon atoms, or an alkynyl group having 2 to 20 carbon atoms;

each of X¹ and X² independently represents a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, an alkenyl group having 2 to 20 carbon atoms, an alkynyl group having 2 to 20 carbon atoms, a diphenylamino group, a 1-naphthylphenylamino group, a 2-naphthylphenylamino group, a di(1-naphthyl) amino group, a di(2-naphthyl) amino group, or a 1-naphthyl-2-naphthylamino group.)]"

"[Claim 8]

The charge-transporting varnish according to Claim 1, wherein the N,N'-diaryl benzidine derivative is represented by one of the formulas (j) to (m).

[Chemical 4]



C Cited Application 1

Since the invention recited in Claim 8 of Cited Application 1 includes the options of "an N,N'-diaryl benzidine derivative," which is the matter specifying the invention, the invention according to Claim 8 when only "formula (I)", which is one of the options, is assumed to be a matter specifying the invention relating to the option, is hereinafter referred to as "Cited Invention 1." Here, the compound of "formula (I)" in Cited Invention 1 is an individual specific compound. Thus, Cited Invention 1 could be grasped independently by a person skilled in the art from Claim 8 of Cited Application 1 and there was no particular circumstance of producing the compound of the formula (I).

(2) Cited Application 2

A Japanese Patent Application No. 2015-502871 cited in the reasons for refusal stated in the examiner's decision (hereinafter, referred to as "Cited Application 2") was filed on February 18, 2014 (priority date: February 26, 2013) as an international filing date before the priority date of the present application, the patent fee thereof was paid on November

7, 2016, and the establishment of a patent right was registered on December 2, 2016 (the gazette containing Japanese Patent No. 6048571 was filed on December 21, 2016).

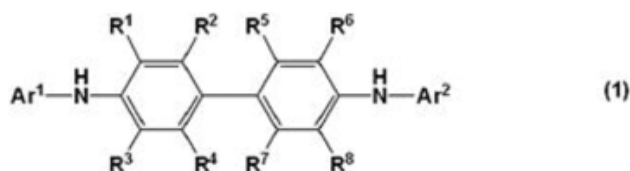
Then, Cited Application 2 was filed prior to the present application.

B Claims 1 and 5 in the Scope of Claims of Cited Application 2 state as follows:

"[Claim 1]

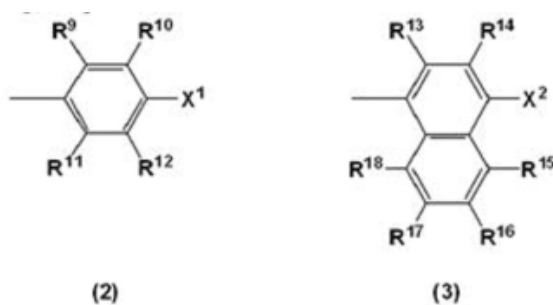
A charge-transporting varnish comprising a charge-transporting material composed of an N,N'-diarylbenzidine derivative of formula (1), a charge-accepting dopant only composed of a heteropolyacid, and an organic solvent, wherein the mass ratio of the heteropolyacid to the charging- transporting material is 1.0-11.0 to 1.

[Chemical 1]



[In the formula, each of R¹ to R⁸ is independently a hydrogen atom, a halogen atom, an alkyl group of 1 to 20 carbons, an alkenyl group of 2 to 20 carbons or an alkynyl group of 2 to 20 carbons; and each of Ar¹ and Ar² is independently a group of formula (2) or (3):

[Chemical 2]

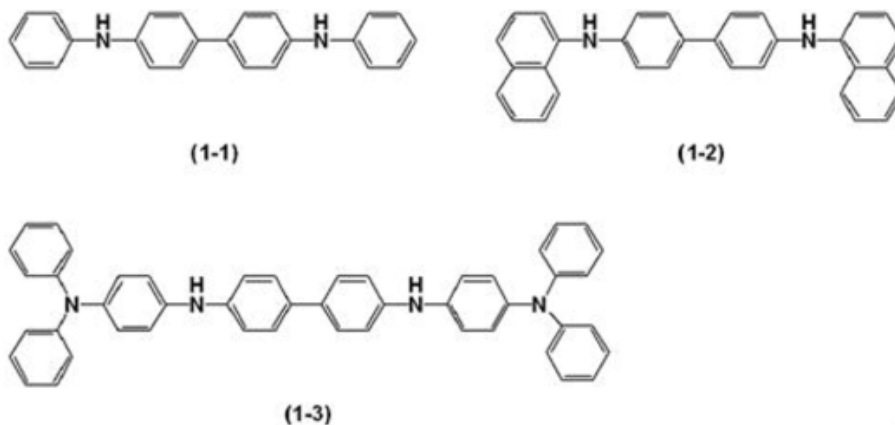


(in the formula, each of R⁹ to R¹⁸ is independently a hydrogen atom, a halogen atom, an alkyl group of 1 to 20 carbons, an alkenyl group of 2 to 20 carbons, or an alkynyl group of 2 to 20 carbons; and each of X¹ and X² is independently a hydrogen atom, a halogen atom, an alkyl group of 1 to 20 carbons, an alkenyl group of 2 to 20 carbons, an alkynyl group of 1 to 20 carbons, a diphenylamino group, a 1-naphthylphenylamino group, a 2-naphthylphenylamino group, a di(1-naphthyl)amino group, a di(2-naphthyl)amino group, or a 1-naphthyl-2-naphthylamino group.)]"

"[Claim 5]

The charge-transporting varnish according to Claim 1, wherein the N,N'-diaryl benzidine derivative is represented by one of formulas (1-1) to (1-3).

[Chemical 3]



"

C Cited Invention 2

Since the invention recited in Claim 5 of Cited Application 2 includes the options of "an N,N'-diaryl benzidine derivative," which is the matter specifying the invention, the invention according to Claim 8 when only "formula (1-2)", which is one of the options, is assumed to be a matter specifying the invention relating to the option, is hereinafter referred to as "Cited Invention 2." Here, the compound of "formula (1-2)" in Cited Invention 2 is an individual specific compound. Thus, Cited Invention 2 could be grasped independently by a person skilled in the art from Claim 5 of Cited Application 2 and there was no particular circumstance of producing the compound of the formula (1-2).

5. Comparison / Judgement

(1) Cited Application 1

A Comparison 1

Hereinafter, The Invention and Cited Invention 1 are compared.

(A) Charge- transporting material

Each of "a charge transporting material composed of an oligoaniline derivative represented by the formula (1)" and "a charge transporting material composed of an N,N'-diaryl benzidine derivative represented by the formula (2)" in Cited Invention 1

corresponds to the "charge- transporting material" in the Invention. In addition, "an N,N'-diaryl benzidine derivative" of "formula (I)" in Cited Invention 1 is "N,N'-di(1-naphthyl)benzidine," so that Cited Invention 1 satisfies the requirement of "the charge-transporting material contains at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine."

(B) Dopant substance

"A dopant" in Cited Invention 1 corresponds to "a dopant substance" in the Invention.

(C) Organic solvent

"An organic solvent" in Cited Invention 1 corresponds to "an organic solvent" in the Invention. In addition, "an organic solvent" in Cited Invention 1 satisfies the requirement of "one or two or more of" in the Invention.

(D) Charge-transporting varnish

"A charge-transporting varnish" in Cited Invention 1 is one "comprising a charge transporting material composed of an oligoaniline derivative represented by formula (1), a charge transporting material composed of an N,N'-diaryl benzidine derivative represented by formula (2), a dopant, and an organic solvent." Therefore, "a charge-transporting varnish" in Cited Invention 1 corresponds to "a charge-transporting varnish" recognized as one "comprising a charge- transporting material, a dopant substance, and one or more of organic solvents" as stated in the Invention.

B Judgment

The Invention and Cited Invention 1 correspond to and are not different from each other in terms of "a charge-transporting varnish comprising a charge- transporting material, a dopant substance, and one or more of organic solvents, wherein the charge-transporting material contains at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine."

Regarding the Invention and the invention recited in Claim 8 of Cited Application 1, in view of the above, Cited Invention 1 has a part that overlaps with the Invention and thus the Invention and the invention recited in Claim 8 of Cited Application 1 are identical.

C Appellant's allegation

In the written request for trial, the statement of the request (3)(c)(I)(i)(B), the

Appellant alleges that the Invention is different from the invention recited in Claim 8 of Cited Prior Art 1 in terms of the following "Different Feature 1-2."

[Different Feature 1-2]

The charge- transporting material in Invention 1 is defined in Markush form such that it "comprises at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine," but only specifies "at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine" as "N,N'-dinaphthylbenzidine" in a concrete manner. In Cited Prior Art Inventions 1 to 8, on the other hand, the charge- transporting material comprises "a charge-transporting material composed of an N,N'-diarylbenzidine derivative" and the "N,N'-diaryl benzidine derivative" is defined in Markush form such that it is "represented by one of the formulas (j) to (m)." However, Cited Prior Art Inventions 1 to 8 do not specify the "N,N'-diaryl benzidine derivative" as "at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine" in a concrete manner, whereas the Invention specifies it. In other words, Cited Prior Art Inventions 1 to 8 include not only "N,N'-dinaphthylbenzidine" but also other kinds of the "N,N'-diaryl benzidine derivative."

Then, the Appellant alleges as follows: "'N,N'-di(1-naphthyl)benzidine' is included in choices in a Markush form, which is '(an N,N'-diaryl benzidine derivative) represented by one of formulas (j) to (m).' Thus, there is an overlap between Invention 1 and Cited Prior Art Inventions 1 to 8. However, in Cited Prior Art Inventions 1 to 8, other choices besides 'N,N'-dinaphthylbenzidine,' such as 'N,N'-diphenylbenzidine,' are also listed as 'N,N'-diaryl benzidine derivatives.' On the other hand, in Invention 1, as 'N,N'-dinaphthylbenzidine,' 'N,N'-di(2-naphthyl)benzidine' and 'N-(1-naphthyl)-N'-(2-naphthyl)benzidine' are also stated in addition to 'N,N'-di(1-naphthyl)benzidine.' Thus, the two inventions have different scopes." "Based on the descriptions in the present application, it is clear that the effect of 'improving the durability of the brightness of the organic electroluminescence element' is added by specifying 'an N,N'-diaryl benzidine derivative' as 'N,N'-dinaphthylbenzidine,' such as 'N,N'-di(1-naphthyl)benzidine.' Therefore, the above [Different Feature 1-2] cannot be said to be a very minor difference in the means for solving the problem."

However, it is possible to certify Cited Invention 1 from the statement in Claim 8 of Cited Application 1, as stated in the above 4(1)C. Then, since no difference is found between the Invention and Cited Invention 1, there is no need of judging whether it is a

very minor difference in the means for solving the problem.

Therefore, the Appellant's allegation cannot be accepted.

D Summary

As stated above, the invention recited in Claim 1 of the present application is identical to the invention recited in Claim 8 of Cited Application 1.

(2) Cited Application 2

A Comparison

Hereinafter, the Invention and Cited Invention 2 are compared.

(A) Charge- transporting material

"A charge-transporting material composed of an N,N'-diarylbenzidine derivative of formula (1)" in Cited Invention 2 corresponds to the "charge- transporting material" in the Invention. "an N,N'-diaryl benzidine derivative" of "the formula (1-2)" in Cited Invention 2 is "N,N'-di(1-naphthyl)benzidine," so that Cited Invention 2 satisfies the requirement of "the charge- transporting material contains at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine."

(B) Dopant substance

"A charge-accepting dopant only composed of a heteropolyacid" in Cited Invention 2 corresponds to the "dopant substance" in the Invention.

(C) Organic solvent

"An organic solvent" in Cited Invention 2 corresponds to "an organic solvent" in the Invention. In addition, "an organic solvent" in Cited Invention 2 satisfies the requirement of "one or two or more of" in the Invention.

(D) Charge-transporting varnish

A charge-transporting varnish" in Cited Invention 2 is recognized as one "comprising a charge-transporting material composed of an N,N'-diarylbenzidine derivative of formula (1), a charge-accepting dopant only composed of a heteropolyacid, and a solvent." Therefore, "a charge-transporting varnish" in Cited Invention 2 corresponds to "a charge-transporting varnish" recognized as one "comprising a charge-transporting material, a dopant substance, and one or more of organic solvents" as stated

in the Invention.

B Judgment

The Invention and Cited Invention 2 correspond to and are not different from each other in terms of "a charge-transporting varnish comprising a charge- transporting material, a dopant substance, and one or more of organic solvents, wherein the charge-transporting material contains at least one selected from N,N'-di(1-naphthyl)benzidine, N,N'-di(2-naphthyl)benzidine, and N-(1-naphthyl)-N'-(2-naphthyl)benzidine."

Regarding the Invention and the invention recited in Claim 5 of Cited Application 2, in view of the above, Cited Invention 2 has a part that overlaps with the Invention and thus the Invention and the invention recited in Claim 5 of Cited Application 2 are identical.

C Appellant's allegation

(A) In the written request for trial, the statement of the request (3)(c)(II)(i)(B), the Appellant alleges that the Invention is different from the invention recited in Claim 5 of Cited Prior Art and such a difference cannot be said to be a very minor difference in the means for solving the problem. The judgment on this point is the same as that stated in the above (1)C.

(B) In the written request for trial, the statement of the request (3)(b), the Appellant also alleges that the examiner's judgment in which the Invention cannot fall into the category of a selection invention is inconsistent with the examination criteria.

However, the present invention cannot be a selection invention because it does not fall into the category of an invention whose identity is not denied by the invention recited in Claim 5 of Cited Application 2 (it does not correspond to an invention in which a difference is found, such as the inventions recited in Claims 2 to 6).

(C) As stated in the above (A) and (B), therefore, the Appellant's allegation cannot be accepted.

D Summary

As stated above, the invention recited in Claim 1 of the present application is identical to the invention recited in Claim 5 of Cited Application 2.

6 Closing

The invention recited in Claim 1 of the present application is identical to the

invention recited in Claim 8 of Cited Application 1 and the invention recited in Claim 5 of Cited Application 2. Therefore, the Appellant should not be granted a patent for the Invention under the provisions of Article 39(1) of the Patent Act.

Therefore, the present application should be rejected without considering other claims.

Therefore, the appeal decision shall be made as described in the conclusion.

June 24, 2020

Chief administrative judge: HIGUCHI, Nobuhiro

Administrative judge: MIYAZAWA, Hiroshi

Administrative judge: IGUCHI, Naoji