Trial Decision

Invalidation No. 2016-800109

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The case of trial regarding the invalidation of the invention of Japanese Patent No. 4452917, entitled "TAB TERMINAL FOR AN ELECTROLYTIC CAPACITOR", between the parties above has resulted in the following trial decision:

Conclusion

The patent for the inventions according to Claims 1 to 13 of Japanese Patent No. 4452917 shall be invalidated.

The costs in connection with the trial shall be borne by the Demandee.

Reason

No. 1 History of the procedures

The application regarding the inventions according to Japanese Patent No. 4452917 is an application filed on December 25, 2003 (Priority Date: December 27, 2002), and the establishment of the patent right of the inventions was registered on February 12, 2010.

An outline of the procedures of this case thereafter is as follows.

September 16, 2016	Demand for the invalidation trial of the case
November 30, 2016	Written reply for the trial case
November 30, 2016	Written correction request
December 14, 2016	Written amendment (form) (Demandee)
January 26, 2017	Written statement (Demandant)
February 16, 2017	Written refutation of the trial case
April 7, 2017	Notice of reasons for refusal of correction & written notice of proceeding result by ex officio
May 11, 2017	Written opinion (Demandee)
May 16, 2017	Written statement (Demandant)
July 4, 2017	Notification of trial examination
September 6, 2017	Oral proceedings statement brief (Demandant)
September 6, 2017	Oral proceedings statement brief (Demandee)
September 27, 2017	Oral proceeding
October 11, 2017	Written statement (Demandee)
February 5, 2018	Advance notice of trial decision
April 10, 2018	Written opinion
April 10, 2018	Written correction request
April 26, 2018	Written amendment (form) (Demandee)

July 6, 2018 Notice of reasons for refusal of correction & written notice of proceeding result by ex officio

August 9, 2018 Written opinion (Demandee)

No. 2 Allegations of the parties

1 Demandant

(1) Object of the demand and the reasons for invalidation

The Demandant demands, in the written demand for trial, the trial decision that "the patents according to Claims 1 to 13 of Japanese Patent No. 4452917 shall be invalidated, and the costs in connection with the trial shall be borne by the Demandee", and reasons for invalidation alleged by the Demandant are roughly as follows. Note that, the numbers of reasons for invalidation such as "1-1" and "1-2" have been assigned by the body.

A Reason for invalidation 1-1

Inventions 1 to 6, 8, and 10 to 13 of the case are inventions described in Evidence A No. 1, and, therefore, these fall under Article 29(1)(iii) of the Patent Act and the Demandee should not be granted a patent for these. ("7(1)(1-1)" and "7(4)(4-3)"of the written demand for trial)

B Reason for invalidation 1-2

Inventions 1 to 6, and 8 to 13 are inventions described in Evidence A No. 1, or are inventions that could have been invented by a person skilled in the art with ease based on, in addition to this, the common general technical knowledge before the priority date of the patent of the case, and, therefore, the Demandee should not be granted a patent for these in accordance with the provisions of Article 29(2) of the Patent Act. ("7(1)(1-1)" and "7(4)(4-4)" of the written demand for trial)

C Reason for invalidation 2

Regarding Inventions 1 to 13, the statement of the detailed description of the invention of the patent of the case does not meet the requirement stipulated in Article 36(4)(i) of the Patent Act. ("7(1)(1-2)" and "7(4)(4-5)" of the written demand for trial)

D Reason for invalidation 3

The statements of Claims 1 to 13 of the Scope of Claims of the patent of the case do not meet the requirement prescribed in Article 36(6)(i) of the Patent Act. ("7(1)(1-3)" and "7(4)(4-6)" of the written demand for trial)

E Reason for invalidation 4

The statements of Claims 1 to 10 of the Scope of Claims of the patent of the

case do not meet the requirement prescribed in Article 36(6)(ii) of the Patent Act. ("7(1)(1-4)" and "7(4)(4-7)" of the written demand for trial)

(2) Regarding the correction request

In the written refutation of the trial case and the oral proceedings statement brief, the Demandant alleges, regarding the correction request as of Nov. 30, 2016, that the Correction shall not be approved for the reason that Correction 2 concerning Claim 2 is not a correction within the range of the matters described in the Description or the drawings attached to the application, and was made in violation of the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act. In this connection, the statement contents of Claim 2 of the corrected Scope of Claims attached to the written correction request as of Nov. 30, 2016 are the same as the statement contents of Claim 1 of the corrected Scope of Claims attached to the written correction request as of Apr. 10, 2018 (refer to the following "No. 3, 2").

Further, regarding the correction request as of Apr. 10, 2018, although an opinion about the reasons for refusal of correction as of Jul. 6 of the same year was requested by the written notice of proceeding result by ex officio as of the same date, no written opinion was submitted from the Demandant.

(3) Means of proof submitted by the Demandant

A Means of proof attached to the written demand for trial

Evidence A No. 1: Japanese Unexamined Patent Application Publication No. 2000-277398

Evidence A No. 2: Japanese Unexamined Patent Application Publication No. H9-45579

Evidence A No. 3: Japanese Unexamined Patent Application Publication No. H9-213592

Evidence A No. 4: Japanese Unexamined Patent Application Publication No. H9-139326

Evidence A No. 5: Chemistry Dictionary, 1st edition, page 527, and page 715

Evidence A No. 6: Japanese Unexamined Patent Application Publication No. H9-274060

Evidence A No. 7: An article entitled "Degradation Mechanism and Acceleration Test Methods of Tinplating Contacts by Temperature Cycles"

Evidence A No. 8: An article entitled "Consideration to Electrical Destruction

of a Film in a Crimping Part of a Terminal"

Evidence A No. 9: Japanese Unexamined Patent Application Publication No. 2004-253311

Evidence A No. 10: An article entitled "Occurrence of Genuine Tin Whiskers and their Growth Mechanism"

Evidence A No. 11: Japanese Unexamined Patent Application Publication No. 2002-305359

Evidence A No. 12: Japanese Unexamined Patent Application Publication No. H10-50774

Evidence A No. 13: Japanese Unexamined Patent Application Publication No. 2000-144445

Evidence A No. 14: Plating Basis Reader, page 24

Evidence A No. 15: A preparation document (3) submitted by the Plaintiff (the Demandee of the case) as of May 9, 2016 in "Tokyo District Court, 2015 (Wa) No. 19661, a case of seeking injunction against patent infringement and the like"

Evidence A No. 16: A preparation document (4) submitted by the Plaintiff (the Demandee of the case) as of Jun. 17, 2016 in "the Tokyo District Court, 2015 (Wa) No. 19661, a case of seeking injunction against patent infringement and the like"

Evidence A No. 17: Evidence explanatory document 1 (replaced version) submitted by the Defendant (the Demandant of the case) as of Mar. 7, 2016 in "Tokyo District Court, 2015 (Wa) No. 19661, a case of seeking injunction against patent infringement and the like"

B Means of proof attached to the written refutation of the trial case

Evidence A No. 18: "Surface Discoloration of Sn-Plated Copper Alloy for Electric/Electronic Components", Akira Sugawara, Masahiro Kataoka, Yoshitake Hana, Collection Papers about Springs, No. 42 (1997)

2 The Demandee

(1) Regarding the gist of the reply and reasons for invalidation

After having made a correction request dated Nov. 30, 2016, the Demandee demands in the written reply for the trial case a trial decision that "the demand for trial of the case was groundless. The costs in connection with the trial shall be borne by the Demandant.", and alleges that, regarding the inventions according to Claims 2, and 10 to 13 after correction, none of the allegations of invalidation by the Demandant have reasons.

In addition, the Demandee stated, with respect to Reasons for invalidations 1-1 to 1-4 mentioned above, that, about a case where the correction request as of Nov. 30, 2016 is not acknowledged, there is no opinion in particular. ("5.(1)(1-3)" of the oral proceedings statement brief submitted by the Demandee and "The Demandee 6" of the first time oral proceeding record)

Further, after having made the correction request as of Apr. 10, 2018, the Demandee alleges in the written opinion as of the same date that the inventions according to Claim 1 after correction and its dependent claims Claim 2, Claim 3, and Claim 17 and its dependent claims have novelty and inventive step over the inventions described in Evidence A No. 1.

(2) Regarding the correction request

Regarding the correction request as of Nov. 30, 2016, the Demandee has given explanation in the written correction request that the matters of correction comply with all the requirements of correction, and, in conjunction with this, has brought, in the written opinion as of May 11, 2017 and the written statement as of Oct. 11 of the same year, counterarguments to the reason for refusal of correction.

In addition, regarding the correction request as of Apr. 10, 2018, the Demandee has explained, in the written correction request, that the matters of correction comply with all the requirements of correction, and, in conjunction with this, has alleged, in the written opinion as of Aug. 9 of the same year, counterarguments to the reason for refusal of correction as of Jul. 6 of the same year. The details will be discussed later.

(3) Means of proof submitted by the Demandee

A Means of proof attached to the written reply for the trial case

Evidence B No. 1: A report (additional experiment results related to Examples of the Description of the case)

B Means of proof attached to the written opinion as of May 11, 2017

Evidence B No. 2: An expert opinion (as of May 9, 2017, National University Corporation, Tokyo Inst. of Technology, professor, doctor of engineering, Kunio Takahashi)

C Means of proof attached to the oral proceedings statement brief

Evidence B No. 3: JIS C-0053 (Environment testing method -

Electric/Electronic - Soldering test method (equilibrium method) (the main body and the appendix)

D Means of proof attached to the written opinion as of Aug. 9, 2018

Evidence B No. 4: Japanese Patent No. 4954406

Evidence B No. 5: Japanese Patent No. 5337943

No. 3 Regarding the correction request of the case

1 Object of the correction

The object of the correction (hereinafter, referred to as "the Correction") in the written correction request as of Apr. 10, 2018 (hereinafter, referred to as "the Written correction request") is one that "requests to correct the Scope of Claims of Japanese Patent No. 4452917 as the corrected Scope of Claims attached to the Written correction request regarding Claims 1 to 23 after correction".

Note that, it is deemed that the request of correction as of Nov. 30, 2016 was withdrawn under the provisions of Article 134-2(6) of the Patent Act.

2 Contents of correction

The statements of Claims 1 to 23 of the corrected Scope of Claims attached to the above written correction request are as follows. (The underlines indicate the corrected portions)

"[Claim 1]

A tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, wherein the whisker suppression processing is tin oxide forming processing, and wherein,

by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire, and a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.50 sec. or less.

[Claim 2]

A tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by

forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, wherein the whisker suppression processing is tin oxide forming processing, and wherein,

by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire, and a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method), is 2.35 sec. or less.

[Claim 3]

A tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, wherein the whisker suppression processing is tin oxide forming processing performed by applying heat treatment to the tab terminal for an electrolytic capacitor, and wherein,

by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire (in this regard, however, regarding the tab terminal for an electrolytic capacitor, excluding ones of a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) of 2.50 sec. or more).

[Claim 4]

(deleted)

[Claim 5]

(deleted)

[Claim 6]

(deleted)

[Claim 7]

(deleted)

[Claim 8]

(deleted)

[Claim 9]

(deleted)

[Claim 10]

(deleted)

[Claim 11]

A manufacturing method of a tab terminal according to Claim 1, the method comprising:

a step of preparing a tab terminal by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, and

a step of applying heat treatment to the welded tab terminal.

[Claim 12]

The manufacturing method according to Claim 11, wherein

the heat treatment is carried out within a range of 60-180°C in an oxygen atmosphere.

[Claim 13]

The manufacturing method according to Claim 11, wherein

the heat treatment is carried out within a range of 80-150°C in an oxygen atmosphere.

[Claim 14]

A manufacturing method of a tab terminal according to Claim 1, comprising:

a step of welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, and

a step of applying, immediately after welding, a solvent to the welded zone to deposit the solvent, wherein

the solvent is a water solution that includes an inorganic acid salt selected from the group consisting of silicate salt, borate, phosphate, sulphuric acid salt, and a mixture product of these, and wherein

concentration of the water solution is 1-10 wt.%.

[Claim 15]

The manufacturing method according to Claim 14, wherein

the solvent is a water solution further including ammonium salt.

[Claim 16]

The manufacturing method according to Claim 14 or 15, wherein,

on an occasion of applying a solvent to the welded zone, temperature of the welded zone is 80-250°C.

[Claim 17]

A tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth

suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, wherein the whisker suppression processing is tin oxide forming processing performed by applying heat treatment to the tab terminal for an electrolytic capacitor, and wherein,

by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire, and a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.85 sec. or less.

[Claim 18]

The manufacturing method of the tab terminal according to Claim 17, the method comprising:

a step of preparing a tab terminal by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, and

a step of applying heat treatment to the welded tab terminal.

[Claim 19]

The manufacturing method according to Claim 18, wherein

the heat treatment is carried out within a range of 60-180°C in an oxygen atmosphere.

[Claim 20]

The manufacturing method according to Claim 18, wherein

the heat treatment is carried out within a range of 80-150°C in an oxygen atmosphere.

[Claim 21]

A manufacturing method of the tab terminal according to Claim 17, the method comprising:

a step of welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, and

a step of applying, immediately after welding, a solvent to the welded zone to deposit the solvent, wherein

the solvent is a water solution that includes an inorganic acid salt selected from the group consisting of silicate salt, borate, phosphate, sulphuric acid salt, and a mixture product of these, and wherein

concentration of the water solution is 1-10 wt.%.

[Claim 22]

The manufacturing method according to Claim 21, wherein
the solvent is a water solution further including ammonium salt.

[Claim 23]

The manufacturing method according to Claim 21 or 22, wherein,
on an occasion of applying a solvent to the welded zone, temperature of the welded zone is 80-250°C."

Here, the matters of correction concerning Claims 1, 2, 3, and 17 described as independent claims in the corrected Scope of Claims mentioned above are as follows.

[Correction 1 (hereinafter, referred to as "Correction A")]

To correct "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing." in Claim 1 of the Scope of Claims to Claim 1 of the corrected Scope of Claims mentioned above.

[Correction 13 (hereinafter, referred to as "Correction B")]

To rewrite "The tab terminal according to Claim 1, wherein, by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire." stated in Claim 2 of the Scope of Claims to an independent claim form and correct it as Claim 2 of the corrected Scope of Claims mentioned above.

[Correction 25 (hereinafter, referred to as "Correction C")]

Regarding Claim 3 that refers to Claim 1, to rewrite "The tab terminal according to Claim 1 or 2, wherein the tin oxide forming processing is performed by applying heat treatment to the tab terminal for an electrolytic capacitor." stated in Claim 3 of the Scope of Claims to an independent claim form and correct it as Claim 3 of the corrected Scope of Claims mentioned above.

[Correction 34 (hereinafter, referred to as "Correction D")]

Regarding Claim 3 that refers to Claim 2, to rewrite "The tab terminal according to Claim 1 or 2, wherein the tin oxide forming processing is performed by

applying heat treatment to the tab terminal for an electrolytic capacitor." of Claim 3 of the Scope of Claims to an independent claim form and correct it as Claim 17 of the corrected Scope of Claims mentioned above.

3 Request for change into another correction unit

The Demandee is requesting to change Claim 2 after correction for which its citation relation has been dissolved by rewriting it to an independent claim form by the above-mentioned Correction B, Claim 3 after correction for which its citation relation has been dissolved by rewriting it to an independent claim form by the above-mentioned Correction C, and Claim 17 after correction for which its citation relation has been dissolved by rewriting it to an independent claim form by the above-mentioned Correction D and its dependent claims of Claims 18 to 23 to different correction units, respectively.

4 Regarding the reasons for refusal of correction

The reasons for refusal of correction notified as of Jul. 6, 2018 by the body are roughly as follows.

(1) Regarding Correction A

Correction A mentioned above is a correction that includes

a) a matter of correction to add, for the purpose of restriction of the Scope of Claims, the matter specifying the invention of Claim 2 before correction that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire" (hereinafter, referred to as "Correction A-a", and

b) a matter of correction to add, for the purpose of restriction of the Scope of Claims, the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.50 sec. or less" (hereinafter, referred to as "Correction A-b").

However, in the Description or the Scope of Claims attached to the application, there is no statement or suggestion to make the upper limit of "zero-cross time" be "2.50 sec.", and, in addition, there is no statement or suggestion to make "zero-cross time" be of a value smaller than "2.30 sec.".

Accordingly, it cannot be said that the above-mentioned Correction A-b is one within the range of the matters described in the Description or the Scope of Claims attached to the application, and, therefore, Correction A including the above-mentioned Correction A-b does not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(2) Regarding Correction B

Correction B mentioned above is one that includes

a) a matter of correction to rewrite, for the purpose of dissolving a citation relation, the statements of Claim 2 so as to make it include the matter specifying the invention of Claim 1 that has been cited by Claim 2 before correction that "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing" (hereinafter, referred to as "Correction B-a"), and

b) a matter of correction to add, for the purpose of restriction of the Scope of Claims, the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method), is 2.35 sec. or less" (hereinafter, referred to as "Correction B-b".

However, in the Description or the Scope of Claims attached to the application, there is no statement or suggestion to make the upper limit of "zero-cross time" be "2.35 sec.", and, furthermore, there is no statement or suggestion to make "zero-cross time" be a value smaller than "2.30 sec.", either.

Therefore, it cannot be said that the above-mentioned Correction B-b is within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus Correction B that includes the above-mentioned Correction B-b does not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Then, the dissolution of the citation relation included in the above-mentioned Correction B (Correction B-a) cannot be approved, either, and, thus, Claim 2 is not treated as a claim unit different from that of the claim of the citation source.

(3) Regarding Correction C

Correction C mentioned above is one that includes

a) a matter of correction to rewrite, for the purpose of dissolving a citation relation, the statements of Claim 3 in such a way that the matter specifying the invention of Claim 1 that was cited by Claim 3 before correction that "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core

material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing" is included in Claim 3 (hereinafter, referred to as "Correction C-a"), and

b) a matter of correction to add, for the purpose of restriction of the Scope of Claims, the matter specifying the invention that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire (in this regard, however, regarding the tab terminal for an electrolytic capacitor, excluding ones of a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) of 2.50 sec. or more)" (hereinafter, referred to as "Correction C-b").

However, in the Description or the Scope of Claims attached to the application, there is no statement or suggestion about "excluding ones of a zero-cross time of 2.50 sec. or more", or that "zero-cross time is less than 2.50 sec.".

Accordingly, it cannot be said that Correction C-b mentioned above is within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus Correction C that includes Correction C-b mentioned above does not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Then, the dissolution of the citation relation included in the Correction C mentioned above (Correction C-a) cannot be approved, either, and, therefore, Claim 3 that refers to Claim 1 is not treated as a claim unit different from the claim of the citation source.

(4) Regarding Correction D

Correction D mentioned above is one that includes

a) a matter of correction to rewrite, for the purpose of dissolving a citation relation, the statements of Claim 3 so as to include the matter specifying the invention of Claim 1 that was cited by Claim 2 that was further cited by Claim 3 before correction that "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing", and the matter specifying the invention of Claim 2 that was cited by Claim 3 before correction that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone

between the lead wire and the aluminum core wire" (hereinafter, referred to as "Correction D-a"), and

b) a matter of correction to add, for the purpose of restriction of the Scope of Claims, the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.85 sec. or less" (hereinafter, referred to as "Correction D-b").

However, in the Description or the Scope of Claims attached to the application, there is no statement or suggestion to make "zero-cross time" be a value smaller than "2.30 sec.".

Accordingly, it cannot be said that Correction D-b mentioned above is within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus Correction D that includes Correction D-b does not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Then, the dissolution of the citation relation (Correction D-a) included in Correction D cannot be approved, either, and thus Claim 3 that refers to Claim 2 that further refers to Claim 1 (Claim 17 after correction and its dependent claims of Claims 18 to 23) is not treated as a claim unit different from the claim of the citation source.

(5) Regarding the correction request concerning the group of claims which consist of Claims 1 to 16

As the above-mentioned (1) to (4), Corrections A to D mentioned above do not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act, and, therefore, it cannot be said that the correction request concerning the group of claims which consist of Claims 1 to 16 that includes Correction A to Correction D in question is a legal correction request, and thus should be rejected.

5 Judgment on Propriety of Correction

(1) Regarding a group of claims

In Claims 1 to 16 before correction, Claims 2 to 16 are ones that directly or indirectly cite Claim 1 to be corrected, and, therefore, Claims 1 to 16 are a group of claims stipulated in Article 134-2(3) of the Patent Act.

In this regard, however, in view of the Demandee submitting a request for change as different claim units as shown in the above-mentioned "3", examination regarding Corrections A to D mentioned above concerning Claims 1, 2, 3, and 17 that

are claims described as independent claims in the corrected Scope of Claims will be made, first, and, after that, suitability of correction for each claim unit will be discussed.

(2) Regarding Correction A

A Purpose of correction

Correction A is one that includes

a) a matter of correction to add the matter specifying the invention of Claim 2 before correction that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire" (hereinafter, referred to as "Correction A-a"), and

b) a matter of correction to add the matters specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.50 sec. or less" (hereinafter, referred to as "Correction A-b").

Then, since Correction A-a mentioned above is one that serially adds the matter specifying the invention that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire" with respect to the other matter specifying the invention, it is for the purpose of restriction of the Scope of Claims stipulated in Article 134-2(1) proviso No. 1 of the Patent Act.

Also, Correction A-b mentioned above is one that serially adds the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.50 sec. or less" to the other matter specifying the invention, and, therefore, it is for the purpose of restriction of the Scope of Claims stipulated in Article 134-2(1) proviso No. 1 of the Patent Act.

B Regarding whether or not it is a correction to substantially enlarge or alter the Scope of Claims

In addition, since the above-mentioned Correction A-a and A-b are ones, as indicated in the above-mentioned "A", that restrict the Scope of Claims by serially adding matters specifying the invention, these do not fall under ones that substantially enlarge or alter the Scope of Claims, and thus they comply with the provisions of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

C Regarding whether or not it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application

Since the above-mentioned Correction A-a is a matter described in Claim 2 before correction, it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus it complies with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Next, the above-mentioned Correction A-b will be discussed below.

(A) The statements of the Description or of the Scope of Claims attached to the application

In the Description or the Scope of Claims attached to the application (hereinafter, referred to as "the Description, etc. of the patent"), there are described the following matters relating to solder wettability. (The underlines were applied by the body).

(a) "[Summary of the Invention]

[0011]

We have now found that, by forming tin oxide on the surface of tin plated leads, generation of whiskers can be suppressed without impairing solder wettability. The present invention is based on such knowledge."

(b)"[0026]

According to the present invention, in a temperature range of 60-180°C, a tab terminal is thermally treated under an oxygen atmosphere to oxidize tin at the welded zone of the tab terminal to form tin oxide. The heat treatment is performed after manufacturing the tab terminal (after welding the aluminum core wire and the lead wire). Although it is also possible to heat only the lead wire plated with tin before welding, and then to weld it with the aluminum core wire, oxidization of tin appearing on the surface of the weld portion can be realized efficiently by performing heat treatment after forming the tab terminal by welding. When the heat treatment is performed at a temperature lower than 60°C, a whisker generation suppressing effect cannot be sufficiently obtained. On the other hand, although it is preferable to perform the heat treatment at a high temperature in order to oxidize tin, if the heat treatment is performed at a temperature higher than 180°C, oxidation of tin is excessively promoted, so that the plating of the lead surface is discolored and, further, the solder wettability is lowered. In other words, a part of the metallic tin existing in the vicinity of the surface of the welded zone is converted into tin oxide (SnO or SnO2) by heat treatment in an oxygen atmosphere, and, the presence of such tin oxide is preferred for the purpose of suppressing whisker generation. However, when all of the metal tin is oxidized to tin

oxide, the solder wettability is lowered, which is not preferable. In the tab terminal of the present invention, it is preferred that the metal tin and tin oxide be present in an appropriate ratio. As a heat treatment temperature at which the metal tin and tin oxide can be present in an appropriate ratio, a temperature range of 80 to 150°C is particularly preferable. The heat treatment time is preferably in a range of 10 to 60 minutes, and more preferably in a range of 15 to 30 minutes. As with the heat treatment temperature, if the heat treatment time exceeds 60 minutes or more, the oxidation of tin proceeds excessively, and the solder wettability is adversely affected."

(c) "[Examples]

[0033]

A lead-in wire (CP line) made of iron/copper plated with 100% tin as a lead wire and an aluminum core wire were cut into predetermined lengths, respectively, and the cut lead wire and aluminum core wire were welded by arc discharge, and then the aluminum core wire portion was pressed by press working to obtain a tab terminal 1. The obtained tab terminal 1 was degreased/washed with a paraffin solvent, and dried in hot air wind at 80°C for 12 minutes.

[0034]

The tab terminal 1 subjected to the degreasing treatment was subjected to a heat treatment using a constant temperature and humidity unit (PVH-110: manufactured by Tabai Espec Corporation) at a temperature shown in Table 1 for 20 minutes (Examples 1 to 4 and Comparative Example 1). In addition, a sample not subjected to heat treatment was referred to as Comparative Example 2.

[0035]

Next, in order to observe whiskers of a sample (Example) subjected to heat treatment and a sample not subjected to heat treatment (Comparative Example), an acceleration test was performed under conditions of 60°C × 90% RH for 250 hours. After the acceleration test, whiskers generated at the welded zone of each sample were observed using an optical microscope of 30x magnification, and the lengths of whiskers generated at the welded zone of a tab terminal were measured.

[0036]

Further, in order to examine the solder wettability of each sample before the acceleration test, the zero-cross time (ZCT value) was measured by the JIS C-0053 soldering test method (equilibrium method). Measurement results are shown in Table 1.

[Table 1]

	熱処理温度 (℃)	ウィスカ長さ (㎜)	ZCT 値 (秒)	ハンダ濡れ性
試料１（実施例１）	１１０	０．１６	２．３５	○
試料２（実施例２）	１３０	０．１７	２．３０	○
試料３（実施例３）	１８０	０．１６	２．８５	○
試料４（比較例１）	２００	０．１５	２．９９	×
試料５（比較例２）	なし	０．２３	２．５０	○

熱処理温度　Heat Treatment Temperature
ウィスカ長さ　Whisker Length
ＺＣＴ値（秒）　ZCT value (sec.)
ハンダ漏れ性　Solder Wettability
試料　Sample
実施例　Example
比較例　Comparative Example
なし　None

"

(d) "[0037]

Next, the tab terminal 1 was immersed in a 1.0 wt% water solution of sodium metasilicate at 120°C for 2 minutes to perform a solvent treatment, thereby obtaining a sample 6. For the obtained sample, an acceleration test was performed under conditions of 60°C × 90% RH for 250 hours. After the acceleration test, the length of a whisker generated at the welded zone of the tab terminal was measured by the same measurement method as described above. In addition, solder wettability of the samples subjected to the solution treatment in the same manner as above was measured. Measurement results are shown in Table 2.

[0038]

Further, within 300 ms after welding a lead wire and an aluminum core wire to each other by an arc discharge, a water solution of 5 wt.% ammonium siliconfluoride was applied to the welded zone and adhered. Thereafter, the aluminum core wire portion was pressed by pressing in the same manner as the manner described above to obtain a tab terminal 2 (Sample 7). The obtained tab terminal 2 was degreased/washed with a paraffin solvent, and dried in hot air wind at 80°C for 12 minutes.

[0039]

The obtained samples 6 and 7 were subjected to an acceleration test in the same manner as described above, and the lengths of whiskers and solder wettability were measured.

[0040]

Results were as shown in Table 2.

[Table 2]

	処理溶剤	ウィスカ長さ (mm)	ZCT 値 (秒)	ハンダ濡れ性
試料６（実施例４）	メタ珪酸ナトリウム	０．１５	２．４０	○
試料７（実施例５）	ケイフッ化アンモニウム	０．０８６	２．３５	○
試料５（比較例２）	なし	０．２３	２．５０	○

処理溶剤　Treatment Solvent
ウィスカ長さ　Whisker Length
ＺＣＴ値（秒）　ZCT Value (sec.)
ハンダ漏れ性　Solder Wettability
試料　Sample
実施例　Example
比較例　Comparative Example
メタ珪酸ナトリウム　Sodium Metasilicate
ケイフッ化アンモニウム　Ammonium Siliconfluoride
なし　None

"

(B) Regarding a measurement method of "zero-cross time"

Although it is specified in the above-mentioned Correction A-b that "zero-cross time" of a tab terminal for an electrolytic capacitor was measured conforming to "JIS C-0053 Soldering test method (equilibrium method)", this point is, as indicated in the above-mentioned "(A) (c)", a matter described in the Description, etc. of the patent.

(C) Regarding a range of numerical values of "zero-cross time"

(a) The upper limit of the range of numerical values

Although, in the above-mentioned Correction A-b, it is specified that "zero-cross time is 2.50 sec. or less", there is no direct description in the Description, etc. of the patent to the effect that "zero-cross time is 2.50 sec. or less".

Then, further examination will be conducted regarding whether or not there is a statement suggesting the numerical value range of "zero-cross time". It is described in the Description, etc. of the patent, as indicated in the above-mentioned "(A) (b)", that "although it is preferable to perform the heat treatment at a high temperature in order to oxidize tin, if the heat treatment is performed at a temperature higher than 180°C, oxidation of tin is excessively promoted, so that the plating of the lead surface is discolored and, further, the solder wettability is lowered.", and this also conforms to a fact that, in Table 1 indicated in the above-mentioned "(A) (c)", "Solder Wettability" of Sample 4 (Comparative Example 1) subjected to heat treatment at "200°C" that is the temperature exceeding 180°C has been evaluated as "×".

Then, since "180°C" is the upper limit of the heat treatment temperature from a viewpoint of solder wettability, when the described matters of Table 1 mentioned above are integrated together, it can be said that it is suggested in the Description, etc. of the patent that "2.85 sec." that is the ZCT value of Sample 3 (Example 3) whose heat treatment temperature is "180°C" is the upper limit of "zero-cross time".

Therefore, there is no statement or suggestion in the Description, etc. of the patent that the upper limit of "zero-cross time" is "2.50 sec.".

In addition, in the Description, etc. of the patent, in the first place, there is no description of an example in which the zero-cross time of a sample to which whisker growth suppression processing has been applied is "2.50 sec.". Accordingly, the value of "2.50 sec." is not described as a boundary value, and there is no description at all regarding problems and effects related to adopting "2.50 sec." as a boundary value, and its critical significance in particular. Note that, although the ZCT value of Sample 5 (Comparative Example 2) described in Table 1 and Table 2 is "2.50 sec.", whisker growth suppression processing has not been carried out to Sample 5, and thus it is not one that is included in the technology range of Claim 1 after correction in which "whisker growth suppression processing is applied" and "zero-cross time is 2.50 sec." or less.

As described above, even if the measurement result in each example is taken into consideration, in the Description, etc. of the patent, there is no statement or suggestion that the upper limit of "zero-cross time" is "2.50 sec.".

Next, allegations of the Demandee related to this point will now be discussed below.

(i) The Demandee alleges, in "5", "(2) Regarding the upper limit value of "zero-cross time" of the written opinion as of Aug. 9, 2018, that

"Definitely, there is described in the Description that, when heat treatment is performed at a temperature exceeding 180°C, solder wettability is lowered (paragraph [0026] of the description), and, in Table 1, the solder wettability of a tab terminal (Sample 3) subjected to heat treatment at 180°C is "○", and the solder wettability of the tab terminal (Sample 4) subjected to heat treatment at 200°C that is a temperature exceeding 180°C is "×". However, by these statements, it cannot be said that the ZCT value (2.85 sec.) of a tab terminal (Sample 3) subjected to heat treatment at 180°C is the upper limit of a ZCT value. In other words, although solder wettability is indicated by "○" and "×" in Table 1 for convenience, it is not the case that the evaluation criterion of "○" and "×" is defined clearly in the Description, and thus a person skilled in the art should understand the degree of solder wettability by the numerical value of a ZCT value, and, on the occasion of coming into contact with the evaluation results in Table 1, would not understand in such a way that solder wettability is good for the reason that a ZCT value is 2.85 sec. (Sample 3), and solder wettability is poor for the reason that a ZCT value is 2.99 sec. (Sample 4). A person skilled in the art coming into contact with Table 1 of the present description understands, from the numerical value of the ZCT value of each sample, that solder wettability is good in the order of

"Sample 2"> "Sample 1"> "Sample 5"> "Sample 3"> "Sample 4",

but never understands that the solder wettability of Samples 1-3 and Sample 5 is good, and the solder wettability of Sample 4 is not good. In fact, also in JIS C-0053 Soldering test method (equilibrium method) (Evidence B No. 3), although it is specified such that a zero-cross time (ZCT value) is an indication of solder wettability, it is not described that the ZCT value of 2.85 sec. is the boundary that determines good or poor solder wettability, and so on."

Definitely, in the Description, etc. of the patent, there is no description of the evaluation criterion of "○" and "×". However, according to the statements such as paragraph [0011] of the Description of the patent of the case, the problem to be solved described in the Description, etc. of the patent is to provide a tab terminal "that can suppress generation of whiskers without impairing solder wettability", and, in addition, taking into consideration that it is natural that evaluation of test results is performed along the problem to be solved in question, even if the evaluation criterion of "○" and "×" related to solder wettability is not being clearly defined in the Description, etc. of the patent, it is natural that a person skilled in the art interprets the evaluation of "○" and "×" in question as evaluation that has been made due to whether or not the problem to be solved has been solved; that is, when it does not "impair solder wettability", "○" is given, and when it "impairs solder wettability", "×" is given.

In addition, although it is obvious that the relevant Sample 4 cannot solve the above-mentioned problem to be solved because Sample 4 is "Comparative Example" in Table 1, but not "Example", the value of "Whisker Length" of Sample 4 is smaller than the values of "Whisker Lengths" of Samples 1 to 3 that are "Examples", and, therefore, it can be said that Sample 4 satisfies the point of "that can suppress generation of whiskers" in the above-mentioned problem to be solved. Then, it is obvious for a person skilled in the art that the reason that Sample 4 is not "Example" but is "Comparative Example" is that it does not meet the point of "without impairing solder wettability" of the problem to be solved mentioned above, and, therefore, it is natural that a person skilled in the art interprets, regarding the symbols "○" and "×" of the column of "Solder Wettability" in Table 1, the symbol "○" as "not impairing solder wettability", and "×" as "impairing solder wettability".

Furthermore, it cannot be acknowledged that there is a reasonable ground that only the magnitude relation of the values of the column of "ZCT Value" in Table 1 ("Sample 2"> "Sample 1"> "Sample 5"> "Sample 3"> "Sample 4") must be focused on without taking into consideration the above-mentioned problem to be solved of "that can suppress generation of whiskers without impairing solder wettability", without taking into consideration sample 4 and Sample 5 being not Examples but being Comparative Examples, and without taking into consideration the descriptions of "○" and "×" of the column of "Solder Wettability".

Then, even if it is not described in JIS C-0053 Soldering test method (equilibrium method) (Evidence B No. 3) that the ZCT value of 2.85 sec. is the boundary to determine good or poor solder wettability, a person skilled in the art can, as described above, sufficiently understood, from the Description, etc. of the patent description, whether or not Sample 1 to Sample 4 can solve the problem to be solved, or the meaning of the symbols of "○" and "×".

As described above, the above-mentioned allegation of the Demandee cannot be adopted.

(ii) The Demandee alleges, in "5", "(2)" Regarding the upper limit value of "zero-cross time" of the written opinion as of Aug. 9, 2018, following the allegation of the above-mentioned (i), after indicating statements of paragraph [0026] of the Description of the patent of the case, that

"a person skilled in the art coming into contact with the above-mentioned statements of the Description understands that: although it is preferred to form more tin oxide from the viewpoint of whisker suppression, metal tin and tin oxide need to be moderately

balanced from the viewpoint of coexistence of whisker suppression and solder wettability on the ground that solder wettability degrades when the whole of the tin plating (metal tin) on the lead wire surface ends up in tin oxide; and, according to a preferred embodiment in which it is considered that the effect of the invention of the patent of the case (coexistence of whisker suppression and solder wettability) is further exerted, heat treatment temperature of a tab terminal is a temperature range of "80-150°C" for the time period of "15-30 min.".

Then, in light of a person skilled in the art understanding that solder wettability is good in order of "Sample 2"> "Sample 1"> "Sample 5"> "Sample 3"> "Sample 4" as mentioned above, the person skilled in the art should understand that solder wettability of Sample 5 (Comparative Example 2) not subjected to heat treatment, Sample 1 (Example 1) subjected to heat treatment at 110°C, and Sample 2 (Example 2) subjected to heat treatment at 130°C is better than that of the tab terminal of Sample 3 (Example 3) subjected to heat treatment at 180°C, and never understands fallaciously as "180°C is the upper limit of heat treatment temperature from the viewpoint of solder wettability"."

However, in the above-mentioned paragraph [0026], it is clearly described that "180°C" is the upper limit of the temperature range, as "According to the present invention, in a temperature range of 60-180°C, a tab terminal is thermally treated under an oxygen atmosphere to oxidize tin at a welded zone of the tab terminal to form tin oxide.". Further, as described above, as viewed from the statement of the description of the same paragraph as "although it is preferable to perform the heat treatment at a high temperature in order to oxidize tin, if the heat treatment is performed at a temperature higher than 180°C, oxidation of tin is excessively promoted, so that the plating of the lead surface is discolored and, further, the solder wettability is lowered." and the statements of "○" and "×" in Table 1, it is recognized that "180°C" is the upper limit of the heat treatment temperature in a viewpoint of solder wettability. Then, "80-150°C" is nothing but one that describes a "preferable" temperature range within the above-mentioned "a temperature range of 60-180°C", and, therefore, the above-mentioned allegation of the Demandee to the effect that the understanding that "180°C is the upper limit of heat treatment temperature from the viewpoint of solder wettability" is in error cannot be adopted.

(iii) The Demandee alleges, in "5", "(3) Ground for Correction A-b (zero-cross time is 2.50 sec. or less)" of the written opinion as of Aug. 9, 2018, that
"However, as described above, in light of a person skilled in the art understanding that,

as a heat treatment temperature by which coexistence of whisker suppression and solder wettability can be realized, the range of "80-150°C" is preferable over the range of "60-180°C", a person skilled in the art coming into contact with the description of Table 1 can recognize that a tab terminal having "ZCT value smaller than 2.85 sec" is a preferred embodiment compared with Sample 3 (ZCT value is 2.85 sec.) subjected to heat treatment at 180°C, from the viewpoint of coexistence of whisker suppression and solder wettability.

Then, taking into consideration the problem to be solved (paragraph [0011] of the Description) of the invention of the patent of the case to provide a tab terminal that can suppress generation of whiskers without impairing solder wettability, "ZCT value smaller than 2.85 sec." in question must be understood as a degree that does not impair solder wettability (Note by the body: ellipsis dots were given to "does not impair"); that is, a degree that can maintain solder wettability possessed by a conventional tab terminal to which heat treatment for whisker suppression is not performed. In other words, a person skilled in the art coming into contact with the Description of the patent of the case understands that, in light of the common general technical knowledge, in order to realize "a tab terminal that can suppress generation of whiskers without impairing solder wettability", it is necessary to include at least "2.50 sec." that is the same degree with the ZCT value of a conventional tab terminal (that is, Sample 5 not subjected to heat treatment) while forming tin oxide so as to be able to suppress generation of whiskers."

However, although the Demandee has rephrased the technical matter as "a degree that does not impair solder wettability" to the technical matter as "a degree that can maintain solder wettability possessed by a conventional tab terminal to which heat treatment for whisker suppression is not performed", the problem to be solved described in the Description, etc. of the patent is "that can suppress generation of whiskers without impairing solder wettability", but is not "without exceeding the ZCT value (2.50 sec.) of Sample 5 (Comparative Example 2)", and thus "a degree that does not impair solder wettability" should be construed as a degree that can solve the problem to be solved as "without impairing solder wettability", and thus there cannot be found a reasonable ground that such understanding must be made in a manner being alleged by the Demandee.

In other words, Sample 5 (Comparative Example 2) in Table 1 is nothing but just an example for comparison of a case when being subjected to heat treatment and a case when not being subjected to heat treatment, and, in the Description, etc. of the patent, there is no statement or suggestion at all that it is necessary to at least include the

ZCT value (2.50 sec.) of Sample 5 (Comparative Example 2). In contrast, in Table 1, as viewed from the matter that Sample 3 that came to have a ZCT value (2.85 sec.) exceeding the ZCT value (2.50 sec.) of Sample 5 (Comparative Example 2) is made to be, not a Comparative Example, but an Example, and the matter that its solder wettability was evaluated as "○", it is impossible to elicit a technical idea that "it is necessary to include at least "2.50 sec." the same degree with the ZCT value of the tab terminal".

Incidentally, for the reason that, in Correction D-b, the numerical value range ("2.85 sec. or less") is a numerical value range including a ZCT value exceeding the ZCT value (2.50 sec.) of Sample 5 (Comparative Example 2), the allegation of the Demandee that "it is necessary to include at least "2.50 sec." that is the same degree with the ZCT value of a conventional tab terminal (that is, Sample 5 not subjected to heat treatment)" does not conform to the contents of the above-mentioned Correction D-b.

Therefore, the above allegation of the Demandee cannot be adopted.

(iv) The Demandee alleges in "5", "(3) Ground for Correction A-b (a zero-cross time is 2.50 sec. or less)" of the written opinion as of Aug. 9, 2018, following the allegation of the above-mentioned (iii), that

"In addition, as is also obvious from there being the statements, in the provision of "B6.1.1 Wetting start time" (JIS C-0053, page 276) of "Appendix B Guidelines for applying the equilibrium method in a soldering test" of JIS C-0053 Soldering test method (equilibrium method) (Evidence B No. 3), that "For this reason, the time interval between t0 and A is a wetting start time. In the case where a component is attached in a step of soldering multiple components simultaneously, although this wetting start time depends on the types of flux and the heat characteristics of the sample, it is desirable to make the wetting start time be 2.5 sec. or less." (The ellipsis dots were provided by the Demandee) (Note by the body: the ellipsis dots were given to "2.5 sec. or less" in the cited portions), "To a person skilled in the art has the common general technical knowledge that, in a conventional tab terminal for which suppression of whisker generation has not been performed, it is regarded as a ZCT value as an indication of solder wettability is 2.5 sec. or less. In addition, in the provision of "B2. Shape of sample" (JIS C-0053, page 274) of "Appendix B Guidelines for applying the equilibrium method in a soldering test" of JIS C-0053 Soldering test method (equilibrium method) (Evidence B No. 3), there is also the statement that "this standard is indicating to apply this method at the time when testing a component terminal

designed in such a way that the whole circumference of its transverse section is wetted by solder.".

Then, even if there is no direct statement in the Description regarding making the upper limit of a ZCT value be "2.50 sec." or less in order to realize "a tab terminal that can suppress generation of whiskers without impairing solder wettability", a person skilled in the art understands that it indicates a matter-of-course matter of common general technical knowledge in the technical field in question (of aluminum electrolytic capacitors) in which Japanese Industrial Standards (JIS C-0053) indicate to apply this method, and, as described above, there is also a leading description therein that "for a component to be attached in the step of soldering multiple components simultaneously, it is desirable to make the upper limit be 2.5 sec. or less." (The ellipsis dots are added by the Demandee) (Note by the body: the ellipsis dots were given to "2.5 sec. or less" in cited portions), so that it is the same as being obviously described.

From the above, it is obvious that the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.50 sec. or less" is a technical matter that is led from all the statements of the Description and the matter-of-course common general technical knowledge in question in the above technical field, and thus it is not one that introduces any new technical matter."

However, in the Description, etc. of the patent, it is only described that a zero-cross time (ZCT value) is measured by JIS C-0053 Soldering test method (equilibrium method) (the above-mentioned "(A) (c)"), and there is no statement or suggestion regarding the matter that "it is desirable to make the upper limit be 2.5 sec. or less." of Appendix B of JIS C-0053. In other words, in the Description, etc. of the patent, it is just described that JIS C-0053 Soldering test method (equilibrium method) is used as a measuring method for a zero-cross time (ZCT value), and, therefore, there is no statement or suggestion that, on the occasion of fabricating a sample to be a measurement target, the sample is fabricated so as to satisfy the matter that "it is desirable to make the upper limit be 2.5 sec. or less." of Appendix B of JIS C-0053 in question, or that a test for determining whether or not the matter that "it is desirable to make the upper limit be 2.5 sec. or less." is satisfied is performed.

In addition, regarding the ZCT value of Sample 5 (Comparative Example 2) of the Description of the patent of the case, there is no statement suggesting that it is a value that was adjusted so as to be "2.50 sec." based on the statement that "it is desirable to make the upper limit be 2.5 sec. or less" of JIS C-0053 mentioned above either.

Further, in the first place, in the provision of the above-mentioned "B6.1.1

Wetting start time" of "Appendix B Guidelines for applying the equilibrium method in a soldering test" of JIS C-0053 Soldering test method (equilibrium method) (Evidence B No. 3), it is described that "although this wetting start time depends on the type of flux and the heat characteristics of the sample, it is desirable to make the wetting start time be 2.5 sec. or less." (the underlines were applied by the body), and thus it is obvious that "2.5 sec. or less" is nothing but just a "desirable" numerical value range, and it is not one that must be necessarily so, and, further, since it "depends on the type of flux and the heat characteristics of the sample", it is not one that must be applied to every component unconditionally either.

In this connection, also in the inventions described in Evidence B No. 4 (Japanese Patent No. 4954406) and Evidence B No. 5 (Japanese Patent No. 5337943) attached by the Demandee to the written opinion as of Aug. 9, 2018, a ZCT value is not limited to "2.50 sec. or less" described in JIS C-0053.

Therefore, just because there is the statement that "it is desirable to make the upper limit be 2.5 sec. or less" in Appendix B of JIS C-0053, it cannot be said that the technical idea to make the upper limit of a ZCT value be "2.50 sec." is disclosed in the Description, etc. of the patent, and, consequently, the above allegation of the Demandee cannot be adopted.

(b) Regarding the lower limit of the numerical value range

Next, the lower limit of the numerical value range of "zero-cross time" will be examined. The lower limit of a zero-cross time is not specified in Correction A-b. Accordingly, the numerical value range specified by Correction A-b is one that also includes a zero-cross time smaller than, for example, "2.30 sec." of Sample 2 (Example 2) (refer to Table 1).

In the meantime, in Table 1 indicated in the above-mentioned "(A) (c)", although there are described the heat treatment temperatures and the ZCT values of Samples 1 to 4 (Examples 1 to 3 and Comparative Example 1) subjected to heat treatment as whisker growth suppression processing, as viewed from the relationship between those values, there is not found monotonicity such as monotonic increase or monotonic decrease between the above-mentioned heat treatment temperatures and the above-mentioned ZCT values. Therefore, it has to be said that it is difficult even for a person skilled in the art to predict what sort of ZCT value is taken at a heat treatment temperature except "110°C", "130°C", "180°C" and "200°C" that were actually measured.

In addition, it is described in the Description, etc. of the patent that heat

treatment is performed at a heat treatment temperature lower than the above-mentioned "110°C" of Sample 1 (Example 1) as "in a temperature range of 60-180°C, a tab terminal is thermally treated under an oxygen atmosphere to" (refer to the above-mentioned "(A) (b)"). However, as viewed from the fact that, in the case where the heat treatment temperature was lowered from "130°C" of Sample 2 (Example 2) to "110°C" of Sample 1 (Example 1), the ZCT value increased from "2.30 sec." to "2.35 sec.", and came close to "2.50 sec." of Sample 5 (Comparative Example 2) not subjected to heat treatment, it has to be said that probability that a ZCT value becomes smaller than "2.30 sec." of Sample 2 (Example 2) is extremely low even if the heat treatment temperature is made to be a heat treatment temperature lower than the above-mentioned "110°C"; that is, a temperature of "60°C or more to less than 110°C".

Then, in the Description, etc. of the patent, there is no statement or suggestion about a technology to make a zero-cross time be less than 2.30 sec. in a case where heat treatment is performed as whisker growth suppression processing; that is, a technology to further improve solder wettability compared with 2.30 sec. of Example 2 while suppressing growth of whiskers.

Further, although, in Table 2 indicated in the above-mentioned "(A) (d)", there are described processing solvents and ZCT values of Samples 6 and 7 (Examples 4 and 5) when solvent treatment was performed as whisker growth suppression processing, both ZCT values exceed the above-mentioned "2.30 sec.", and thus there is no described example in which a ZCT value becomes less than "2.30 sec.", and, in addition, a specific treatment solvent by which a ZCT value becomes less than "2.30 sec." cannot be speculated from those examples either.

As described above, in the Description, etc. of the patent, there is no statement or suggestion about making "zero-cross time" be a value smaller than "2.30 sec.".

Next, the allegation of the Demandee (counterargument) related to this point will be discussed below.

(i) The Demandee alleges, in "5", "(6) Regarding the lower limit value of "zero-cross time"" of the written opinion as of Aug. 9, 2018, that

"However, in the range of Claim 1 of the Scope of Claims before correction, the embodiment of "a zero-cross time is less than 2.30" is also included, let alone the embodiment of "a zero-cross time is 2.50 sec. or less" and the embodiments of "a zero-cross time is 2.85 sec. or less" and the like, and thus it is not the case that the embodiment of a zero-cross time being less than 2.30 came to be included in the range newly by Correction A-b to Correction D-b. In other words, all of Correction A-b to

Correction D-b are ones that intend to exclude, among embodiments of Claim 1 of the Scope of Claims before correction, embodiments whose zero-cross times are larger than a specific value from the claim, and thus there is no change at all through before and after correction that, in the Description of the patent of the case, the embodiment to make a zero-cross time be less than 2.30 sec. is included in the Scope of Claims. Therefore, regardless of whether there is stated, in the description of the case, a technology to make a zero-cross time be less than 2.30 sec., it is obvious that Correction A-b to Correction D-b meet the requirement of Article 134 (1)(i) of the Patent Act."

However, just because a zero-cross time is not specified at all in the Scope of Claims before correction, it cannot be said that a technology that enables realization of the whole numerical value range of a zero-cross time is disclosed in the Description, etc. of the patent, and, therefore, the above allegation of the Demandee cannot be adopted.

(ii) The Demandee alleges, in "5", "(6) Regarding the lower limit value of "zero-cross time"" of the written opinion as of Aug. 9, 2018, following the allegation of the above-mentioned (i), that

"In addition, it is only an upper limit as "○○ sec. or less" that has a technological meaning as an indication of solder wettability, and thus to specify the lower limit in such a way that "○○ sec. or more" serves no purpose as a means for solving the technological problems related to solder wettability. Actually, although, on page 276 of JIS C-0053 Soldering test method (equilibrium method) (Evidence B No. 3), there is a statement that "For this reason, the time interval between t0 and A is a wetting start time. In the case where a component is attached in a step of soldering multiple components simultaneously, although this wetting start time depends on the type of flux and the heat characteristics of the sample, it is desirable to make the wetting start time be 2.5 sec. or less." (the ellipsis dots were provided by the Demandee) (Note by the body: the ellipsis dots were given to "2.5 sec. or less" of the cited portions), this statement is not only simply indicating the numerical value range as "2.5 sec. or less", but also indicating that the matter-of-course common general technical knowledge in the technical field in question that the concept referred to as "solder wettability" is evaluated by the standard that whether or not a zero-cross time (ZCT value) is a certain value or less (Omitted). In other words, it is normal that a person skilled in the art coming into contact with Examples in the description reads, regarding each ZCT value described therein, a technological meaning as being the numerical value in question or less, and, adversely, it cannot be thought that technical significance is found in being the numerical value in question or more. Therefore, to stipulate the lower limit value of a

zero-cross time (ZCT value) is nothing but absolutely meaningless as a means for solving the problems for the technical problems to be solved of the invention of the case, and, also in its meaning, it is obvious that this point cannot be a ground for violation of the requirements of correction."

However, the problem to be solved described in the Description, etc. of the patent is to provide a tab terminal "that can suppress generation of whiskers without impairing solder wettability", and, therefore, it cannot be said that "to stipulate the lower limit value of a zero-cross time (ZCT value) is absolutely meaningless as a means for solving the problems for the technical problems to be solved of the invention of the case" only focusing attention on solder wettability without considering whether or not generation of whiskers can be suppressed. In particular, taking into consideration there being the relationship between whisker growth suppression processing and a zero-cross time as illustrated by the Demandee on page 3 of the written opinion as of Oct. 11, 2017, when a value of a ZCT value becomes small, whisker growth suppression effect also becomes small, and, thus, although the problem to be solved as "without impairing solder wettability" can be solved, there may be a case where the problem to be solved as "that can suppress whisker generation" cannot be solved, and, therefore, it cannot be said that "to stipulate the lower limit value of a zero-cross time (ZCT value) is absolutely meaningless as a means for solving the problems for the technical problems to be solved of the invention of the case".

Accordingly, the above allegation of the Demandee cannot be adopted.

(iii) The Demandee alleges, in "5", "(6) Regarding the lower limit value of "zero-cross time"" of the written opinion as of Aug. 9, 2018, following the allegation of the above-mentioned (ii), that

"In addition, as has been described in the above-mentioned 5(2)-(5), the corrected invention of the case is one that tries to obtain a tab terminal subjected to whisker generation suppression processing while maintaining solder wettability, but is not one to try to obtain a tab terminal excellent in solder wettability. That is, the matters of correction such as "a zero-cross time is 2.50 sec. or less" of Correction A-b and "a zero-cross time is 2.35 sec. or less" of Correction B-b are not ones which intend to put a zero-cross time close to 0 sec. as much as possible, and these are nothing but ones that stipulate the upper limit of a degree of tin oxide formation in tin oxide forming processing that is whisker generation suppression processing. Therefore, it is obvious that, at least in the technical idea of Corrected invention of the case, there is no particular technical importance in the range of a zero-cross time of "0 sec. or more to

less than 2.30 sec.". In other words, Correction A-b is one that prescribes performance of tin oxide forming processing (heat treatment) of a weld zone of a tab terminal to the extent that a zero-cross time of the tab terminal not exceeding 2.50 sec., and is not one that prescribes achievement of a tab terminal having a zero-cross time that is of a smaller value as much as possible (excellent in solder wettability) regardless of whisker generation suppression. Therefore, also in this meaning, it is obvious that whether or not a technology to further improve solder wettability compared with 2.30 sec. of Example 2 is described in the Description of the patent of the case has little influence on the propriety of Correction A-b to Correction D-b." (Note by the body: the ellipsis dots were given to the above-mentioned "while maintaining solder wettability", "excellent in solder wettability" and "to the extent" "not exceeding 2.50 sec.").

However, the problem to be solved described in the Description, etc. of the patent is to provide a tab terminal "that can suppress generation of whiskers without impairing solder wettability", and technical evaluation of a numerical value range should be made by whether or not the above-mentioned problem to be solved can be solved. Therefore, it is not possible to adopt the above-mentioned allegation of the Demandee that insists, without considering whether "whisker generation is able to be suppressed without impairing solder wettability" in the numerical value range of a zero-cross time of "0 sec. or more to less than 2.30 sec.", that "there is no particular importance in the range of zero-cross time of "0 sec. or more to less than 2.30 sec."" and that "whether or not a technology to further improve solder wettability compared with 2.30 sec. of Example 2 is described in the description of the patent of the case has little influence on the propriety of Correction A-b to Correction D-b".

Then, regarding whether or not "whisker generation is able to be suppressed without impairing solder wettability" in the numerical value range of a zero-cross time as "0 sec. or more to less than 2.30 sec.", there is no statement of an example included in "0 sec. or more to less than 2.30 sec." in question in the Description, etc. of the patent, there is no disclosure of specific technology for making it be "0 sec. or more to less than 2.30 sec." as described above, and, in addition, there is no description at all regarding the length and evaluation and the like of a whisker when a zero-cross time is "0 sec. or more to less than 2.30 sec.", and, therefore, it must be said that it is not disclosed, in the Description, etc. of the patent, that the problems to be solved of "that can suppress generation of whiskers without impairing solder wettability" is solved by making a zero-cross time be "0 sec. or more to less than 2.30 sec.".

(iv) Although the Demandee is laying allegations, in "5", "(6) Regarding the lower limit

value of "zero-cross time"" of the written opinion as of Aug. 9, 2018, following the allegation of the above-mentioned (iii), based on there being a statement as "a zero-cross time is 4.5 sec. or less" in Claims 3, 6, and 9 of Japanese Patent No. 4954406 (Evidence B No. 4), and, similarly, there being a statement as "a zero-cross time of solder wettability is 0.65 sec. or less" in Claim 5 of Japanese Patent No. 5337943 (Evidence B No. 5), just because the lower limit value of a zero-cross time is not specified in the Description etc. of a patent different from the present case (- does not mean), in the Description, etc. of the patent, it cannot be said that it is being disclosed that the problem to be solved as "that can suppress generation of whiskers without impairing solder wettability" is solved by making a zero-cross time be "0 sec. or more to less than 2.30 sec.", and, consequently, the above allegation of the Demandee cannot be adopted.

(D) Summary

Summarizing the above matters, in the Description or the Scope of Claims attached to the application, there is no description or suggestion to make the upper limit of "zero-cross time" be "2.50 sec.", and there is no statement or suggestion to make "zero-cross time" be a value smaller than "2.30 sec." either.

Therefore, it cannot be said that the above-mentioned Correction A-b is within the range of the matters described in the Description or the Scope of Claims attached to the application.

Accordingly, Correction A that includes the above-mentioned Correction A-b does not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(3) Regarding Correction B

A Purpose of correction

Correction B is one that includes

a) a matter of correction to rewrite the statements of Claim 2 so as to make it one that includes the matter specifying the invention of Claim 1 that has been cited by Claim 2 before correction that "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing" (hereinafter, referred to as "Correction B-a"), and,

b) a matter of correction to add the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method), is 2.35 sec. or less" (hereinafter, referred to as "Correction B-b").

The above-mentioned Correction B-a to rewrite the statements of Claim 2 into an independent form is a correction for the purpose of "making the statement of a claim that refers to the statement of another claim be a statement that does not refers to the statement of the claim in question" stipulated in Article 134-2(1) proviso No. 4 of the Patent Act.

In addition, since the above-mentioned Correction B-b is one to serially add another matter specifying the invention to the matter specifying the invention as "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method), is 2.35 sec. or less", it is for the purpose of restriction of the Scope of Claims stipulated in Article 134-2(1) proviso No. 1 of the Patent Act.

B Regarding whether or not it is a correction that substantially enlarges or alters the scope of claims

Since Correction B-a is one just to rewrite Claim 2 into an independent form, and does not involve substantial change of the contents at all, it does not fall under ones that substantially enlarge or alter the Scope of Claims, and thus is one that complies with the provision of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Also, since Correction B-b is one that restricts the Scope of Claims by serially adding a matter specifying the invention as indicated in the above-mentioned "A", it does not fall under ones that substantially enlarge or alter the Scope of Claims, and thus is one that complies with the provision of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

C Regarding whether or not it is a correction within the range of the matters described in the description or the Scope of Claims attached to the application

Since Correction B-a is a matter described in Claim 1 before correction, it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus is one that complies with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Next, Correction B-b will be discussed below.

(A) Regarding a measurement method of "zero-cross time"

In Correction B-b, the point which is specified that "zero-cross time" of a tab terminal for an electrolytic capacitor is a value "measured conforming to JIS C-0053 Soldering test method (equilibrium method)" is a matter described in the Description, etc. of the patent as indicated in the above-mentioned "(2)C(A)(c).

(B) Regarding the numerical value range of "zero-cross time"

(a) Regarding the upper limit of the numerical value range

In Table 1 indicated in the above-mentioned "(2)C(A)(c)", it is described that the ZCT value of Sample 1 (Example 1) whose heat treatment temperature is "110°C" is "2.35 sec.", and solder wettability is "○", and, in addition, in Table 2 indicated in the above-mentioned "(2)C(A)(d)", it is described that the ZCT value of Sample 7 (Example 5) whose treatment solvent is "ammonium siliconfluoride" is "2.35 sec." and the solder wettability is "○". However, in the above-mentioned Table 1 and Table 2, it is described that the solder wettability of Sample 3 (Example 3: 2.85 sec.) and Sample 6 (Example 4: 2.40 sec.) regarding which ZCT values larger than "2.35 sec." were measured are "○", and, therefore, it cannot be read from Table 1 and Table 2 in question that the upper limit of a ZCT value is "2.35 sec.".

Furthermore, even if the statements of the Description, etc. of the patent other than the above-mentioned Table 1 and Table 2 are reviewed, there is no statement at all about the problems to be solved and effects, and, more particularly, critical significance, related to making the upper limit of the numerical value range be "2.35 sec." and making the upper limit of the numerical value range be "2.35 sec.".

On the other hand, as instructed in the above-mentioned "(2)C(C)(a)", it can be said that, in the Description, etc. of the patent, it is suggested that "2.85 sec." that is the ZCT value of Sample 3 (Example 3) for which the heat treatment temperature is "180°C" is the upper limit of "zero-cross time".

When the above matters are summarized, in the Description, etc. of the patent, there is no statement or suggestion that the upper limit of "zero-cross time" is "2.35 sec.".

Next, the Demandee"s allegation (counterargument) related to this point will be discussed below.

(i) The Demandee alleges, in "5", "(4) Correction B-b (The ground for a zero-cross time being 2.35 sec. or less)" of the written opinion as of Aug. 9, 2018, that "As described above, in light of the statements of the description and the common general technical knowledge, a person skilled in the art understands that, according to a preferred

embodiment in which it is considered that the effect of the invention of the patent of the case (coexistence of whisker suppression and solder wettability) is exerted further, the heat treatment condition of a tab terminal is a temperature range of "80°C to 150°C" for "15 min. to 30 min.". Then, also in light of the evaluation result shown in Table 1 of Examples, it can be understood that, in Sample 1 (Example 1) subjected to heat treatment at 110°C for 20 min., the whisker length is as short as 0.16 mm and the ZCT value is as small as 2.35 sec., and thus it is an especially desirable embodiment.

In light of the above, the correction is not one that introduces a new technical matter at all to make the ZCT value of Sample 1 (Example 1) described as a tab terminal by which solder wettability and whisker generation suppression can coexist be an embodiment that further exerts the effect of the invention of the patent of the case; that is, to make it be an indicator of a tab terminal that can realize solder wettability and whisker generation suppression at a further high level."

However, taking into consideration the matters that the problem to be solved described in the Description, etc. of the patent is to provide a tab terminal "that can suppress generation of whiskers without impairing solder wettability", and that, in Claim 2, it is not specified to the extent that the tin oxide forming processing is performed by heat treatment of the tab terminal, but the tin oxide forming processing includes one that is carried out by solvent treatment, reasonable grounds to make the ZCT value (2.35 sec.) of Sample 1 be the upper limit in a manner excluding the ZCT value (2.85 sec.) of Sample 3 (Example 3) whose whisker length is the same as that of Sample 1, and the ZCT value (2.40 sec.) of Sample 6 (Example 4) whose whisker length is shorter than that of Sample 1 cannot be found, and, therefore, the above allegation of the Demandee cannot be adopted.

(b) Regarding the lower limit of the numerical value range

Since the lower limit of a zero-cross time is not specified in Correction B-b, as with Correction A-b, the numerical value range specified by Correction B-b is a range that also includes a zero-cross time smaller than, for example, "2.30 sec." of Sample 2 (Example 2) (refer to Table 1).

However, as instructed in the above-mentioned "(2)C(C)(b)", in the Description, etc. of the patent, there is no statement or suggestion to make "zero-cross time" be of a value smaller than "2.30 sec.".

Furthermore, the Demandee"s allegation (counterargument) related to this point is the same as the content examined in the above-mentioned "(2)C(C)(b)", and cannot be adopted.

(C) Summary

When the above matters are summarized, in the Description or the Scope of Claims attached to the application, there is no description or suggestion to make the upper limit of "zero-cross time" be "2.35 sec.", and, in addition, there is no statement or suggestion to make "zero-cross time" be of a value smaller than "2.30 sec.".

Therefore, it cannot be said that the above-mentioned Correction B-b is within the range of the matters described in the Description or the Scope of Claims attached to the application.

Accordingly, Correction B that includes the above-mentioned Correction B-b does not comply with the provisions of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(4) Regarding Correction C

A Purpose of correction

Correction C is a correction that includes

a) a matter of correction to rewrite the statement of Claim 3 in such a way that the matter specifying the invention of Claim 1 that was cited by Claim 3 before correction that "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing" is included in Claim 3 (hereinafter, referred to as "Correction C-a"), and

b) a matter of correction to add the matter specifying the invention that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire (in this regard, however, regarding the tab terminal for an electrolytic capacitor, excluding ones of a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) of 2.50 sec. or more)" (hereinafter, referred to as "Correction C-b").

Then, the above-mentioned Correction C-a to rewrite the statement of Claim 3 into an independent form is a correction for the purpose of "to make the statement of a claim that refers to the statement of another claim be a statement that does not refer to the statement of the claim in question" stipulated in Article 134-2(1) proviso No. 4 of the Patent Act.

In addition, the above-mentioned Correction C-b is a correction that serially

adds another matter specifying the invention to the matter specifying the invention as "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire (in this regard, however, regarding the tab terminal for an electrolytic capacitor, excluding ones of a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) of 2.50 sec. or more)", and thus it is for the purpose of restriction of the Scope of Claims stipulated in Article 134-2(1) proviso No. 1 of the Patent Act.

B Regarding whether or not being a correction substantially enlarges or alters the Scope of Claims

Correction C-a is one that just rewrites Claim 3 into an independent form, and does not involve a change of substantial contents at all, and thus it does not fall under ones that substantially enlarge or alter the Scope of Claims, and thus complies with the provision of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

In addition, as indicated in the above-mentioned "A", Correction C-b does not fall under ones that substantially enlarge or alter the Scope of Claims, because it is one that restricts the Scope of Claims by serially adding a matter specifying the invention, and thus is one that complies with the provision of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

C Regarding whether or not it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application

Since Correction C-a is a matter described in Claim 1 before correction, it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus it complies with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Next, Correction C-b will be discussed below.

(A) Regarding components of the weld zone

The point which is specified in Correction C-b that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire" is the matter described in paragraph [0026] of the Description of the patent of the case.

(B) Regarding a measurement method of "zero-cross time"

The point which is specified in Correction C-b that "zero-cross time" of a tab terminal for an electrolytic capacitor is a value "measured conforming to JIS C-0053 Soldering test method (equilibrium method)" is a matter described in the Description, etc. of the patent, as indicated in the above-mentioned "(2)C(A)(c)".

(C) Regarding the numerical value range of "zero-cross time"

Although it is specified in Correction C-b, regarding the numerical value range of "zero-cross time", as "excluding ones of a zero-cross time of 2.50 sec. or more", in the Description, etc. of the patent, there is no direct description to the effect that "excluding ones of a zero-cross time of 2.50 sec. or more".

Therefore, since the matter of "excluding ones of a zero-cross time of 2.50 sec. or more" is substantially the same as "zero-cross time is less than 2.50 sec.", whether or not the matter that "zero-cross time is less than 2.50 sec." is described in the Description, etc. of the patent will be further examined.

(a) Regarding the upper limit of the numerical value range

As instructed in the above-mentioned "(2)C(C)(a)", it can be said that, in the Description, etc. of the patent, it is suggested that "2.85 sec.", which is the ZCT value of Sample 3 (Example 3) whose heat treatment temperature is "180°C", is the upper limit of "zero-cross time". In addition, there is no description at all in the Description, etc. of the patent about exclusion of the above-mentioned sample 3 (Example 3) whose solder wettability is "○" or the reason for the exclusion and the like. Further, there is no description at all about other reasons that the upper limit of "zero-cross time" needs to be of a value smaller than "2.85 sec.". Therefore, the matter that "zero-cross time is less than 2.50 sec." is not described in the Description, etc. of the patent.

Next, the Demandee"s allegation (counterargument) related to this point will be discussed below.

(i) The Demandee alleges, in "5", "(5) The ground for Correction C-b (excluding ones of a zero-cross time of 2.50 sec. or more)" of the written opinion as of Aug. 9, 2018, that "As described above, a person skilled in the art coming into contact with the Description of the patent of the case understands that, in light of the common general technical knowledge, in order to achieve "a tab terminal that can suppress generation of whiskers without impairing solder wettability", it is necessary to at least include "2.50 sec." that is the same degree with the ZCT value of a conventional tab terminal (that is, Sample 5 not subjected to heat treatment) while forming tin oxide so as to be able to suppress

whisker generation.

In other words, a person skilled in the art understands that, a tab terminal having a ZCT value larger than "2.50 sec." that is a value the same degree with the ZCT value of a conventional tab terminal (that is, Sample 5 not subjected to heat treatment) is one that should be excluded from "a tab terminal that can suppress generation of whiskers without impairing solder wettability"."

However, as mentioned in the above "(2)C(C)(a)(i)", it is natural that the symbol "○" described in the Description of the patent of the case is interpreted as "does not impair solder wettability", and as viewed from the fact that the solder wettability of Sample 3 (Example 3) whose ZCT value is "2.85 sec." is evaluated as "○", it cannot be said that, only by a ZCT value being larger than the ZCT value (2.50 sec.) of a conventional tab terminal, "solder wettability and whisker generation suppression cannot coexist", and it cannot be decided that it is necessary to at least include the ZCT value (2.50 sec.) of a conventional tab terminal either.

Therefore, the above allegation of the Demandee cannot be adopted.

(b) Regarding the lower limit of the numerical value range

Since the lower limit of a zero-cross time is not specified in Correction C-b, the numerical value range specified by Correction C-b is, as with Correction A-b, a range that includes, for example, a zero-cross time smaller than "2.30 sec." of Sample 2 (Example 2) (refer to Table 1).

However, as instructed in the above-mentioned "(2)C(C)(b)", in the Description, etc. of the patent, there is no statement or suggestion to make "zero-cross time" be of a value smaller than "2.30 sec.".

In addition, the Demandee"s allegation (counterargument) related to this point is the same content as that examined in the above-mentioned "(2)C(C)(b)", and thus it cannot be adopted.

(D) Summary

When the above matters are summarized, in the Description or the Scope of Claims attached to the application, there is no statement or suggestion about "excluding ones of a zero-cross time of 2.50 sec. or more", or "zero-cross time is less than 2.50 sec.".

Therefore, it cannot be said that the above-mentioned Correction C-b is within the range of the matters described in the Description or the Scope of Claims attached to the application.

Accordingly, Correction C that includes Correction C-b mentioned above does not comply with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(5) Correction D

A Purpose of correction

Correction D is one that includes

a) a matter of correction to rewrite the statements of Claim 3 so as to include the matter specifying the invention of Claim 1 cited by Claim 2 further cited by Claim 3 before correction that "a tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing", and the matter specifying the invention of Claim 2 cited by Claim 3 before correction that "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire" (hereinafter, referred to as "Correction D-a"), and

b) a matter of correction to add, for the purpose of restriction of the Scope of Claims, the matter specifying the invention that "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.85 sec. or less" (hereinafter, referred to as "Correction D-b").

Then, the above-mentioned Correction D-a to rewrite the statement of Claim 3 into an independent form is a correction for the purpose "to make the statement of a claim that refers to the statement of another claim be a statement that does not refer to the statement of the claim in question" stipulated in Article 134-2(1) proviso No. 4 of the Patent Act.

In addition, since the above-mentioned Correction D-b is to serially add a matter specifying the invention as "a zero-cross time measured conforming to JIS C-0053 Soldering test method (equilibrium method) is 2.85 sec. or less" to other matters specifying the invention, it is for the purpose of restriction of the Scope of Claims stipulated in Article 134-2(1) proviso No. 1 of the Patent Act.

B Regarding whether or not it is a correction substantially enlarges or alters the Scope of Claims

Since Correction D-a is to just rewrite Claim 3 into an independent form, and

is not one that involves substantial change of the contents at all, it does not fall under ones that substantially enlarge or alter the Scope of Claims, and thus is one that complies with the provision of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

In addition, since Correction D-b is, as indicated in the above-mentioned "A", a correction that restricts the Scope of Claims by serially adding a matter specifying the invention, it does not fall under ones that substantially enlarge or alter the Scope of Claims, and thus complies with the provision of Article 126(6) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

C Regarding whether or not it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application

Since Correction D-a is a matter described in Claims 1 and 2 before correction, it is a correction within the range of the matters described in the Description or the Scope of Claims attached to the application, and thus complies with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Next, Correction D-b will be discussed below.

(A) Regarding a measurement method of "zero-cross time"

The point which is specified in Correction D-b that "zero-cross time" of a tab terminal for an electrolytic capacitor is a time that is "measured conforming to JIS C-0053 Soldering test method (equilibrium method)" is, as indicated in the above-mentioned "(2)C(A)(c)", a matter described in the Description, etc. of the patent.

(B) Regarding the numerical value range of "zero-cross time"

(a) The upper limit of the numerical value range

As instructed in the above-mentioned "(2)C(C)(a)", it can be said that, in the Description, it is suggested that "2.85 sec." that is the ZCT value of Sample 3 (Example 3) whose heat treatment temperature is "180°C" is the upper limit of "zero-cross time".

Therefore, the matter that the upper limit of the numerical value range is "2.85 sec." is a matter described in the Description, etc. of the patent.

(b) The lower limit of the numerical value range

Since the lower limit of a zero-cross time is not specified in Correction D-b, the numerical value range specified by Correction D-b is, as with Correction A-b, one that also includes a zero-cross time smaller than, for example, "2.30 sec." of Sample 2

(Example 2) (refer to Table 1).

However, as instructed in the above-mentioned "(2)C(C)(b)", in the Description, etc. of the patent, there is no statement or suggestion to make "zero-cross time" be of value smaller than "2.30 sec.".

In addition, the Demandee"s allegation (counterargument) related to this point is the same as the content examined in the above-mentioned "(2)C(C)(b)", and thus cannot be adopted.

(C) Summary

When the above matters are summarized, in the Description or the Scope of Claims attached to the application, there is no statement or suggestion to make "zero-cross time" be of a value smaller than "2.30 sec.".

Therefore, it cannot be said that the above-mentioned Correction D-b is within the range of the matters described in the Description or the Scope of Claims attached to the application.

Accordingly, Correction D that includes the above-mentioned Correction D-b, does not comply with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(6) Regarding the unit of request of correction

Since, as described in the above-mentioned "(3)C(C)", Correction B concerning Claim 2 does not meet the requirements of correction, the dissolution of the citation relation (Correction B-a) included in the above-mentioned Correction B cannot be acknowledged. Therefore, Claim 2 is not treated as a claim unit different from that of the claim of the citation source.

In addition, as described in the above-mentioned "(4)C(C)", Correction C concerning Claim 3 does not satisfy the requirements of correction, and thus the dissolution of the citation relation (Correction C-a) included in Correction C cannot be acknowledged either. Therefore, Claim 3 that refers to Claim 1 is not treated as a claim unit different from that of the citation source claim.

Further, as described in the above-mentioned "(5)C(C)", Correction D concerning Claim 3 does not meet the requirements of correction, and thus the dissolution of the citation relation (Correction D-a) included in the above-mentioned Correction D cannot be acknowledged either. Accordingly, regarding Claim 3 that refers to Claim 2 that refers to Claim 1 (Claim 17 after correction and Claims 18 to 23 that are dependent claims thereof), these are not treated as a claim unit different from

that of the citation source claim.

Then, the claim unit of the Correction is a group of claims which consists of Claims 1 to 16.

(7) Conclusion regarding suitability of the corrections concerning a group of claims which consists of Claims 1 to 16

As mentioned in the above-mentioned "(2)" to "(5)", none of the above-mentioned Correction A (Correction 1), Correction B (Correction 13), Correction C (Correction 25), and Correction D (Correction 34) are ones that comply with the provision of Article 126(5) of the Patent Act which is applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Therefore, without examining the other matters of correction, the corrections concerning the group of claims which consist of Claims 1 to 16 cannot be acknowledged.

No. 4 The Invention

Since, as "No. 3" mentioned above, the demand for Correction of the case cannot be acknowledged, the inventions according to Claims 1 to 16 of Japanese Patent No. 4452917 (hereinafter, referred to as "Invention 1" to "Invention 16") are ones that are specified by the matters described in Claims 1 to 16 of the Scope of Claims at the time of the establishment of the patent right, and each of the Inventions 1 to 16 is as follows.

"[Claim 1]

A tab terminal for an electrolytic capacitor constituted by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, wherein whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing.

[Claim 2]

The tab terminal according to Claim 1, wherein,

by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire.

[Claim 3]

The tab terminal according to Claim 1 or 2, wherein

the tin oxide forming processing is performed by applying heat treatment to

the tab terminal for an electrolytic capacitor.

[Claim 4]

The tab terminal according to Claim 3, wherein

the heat treatment is carried out within a range of 60-180℃ in an oxygen atmosphere.

[Claim 5]

The tab terminal according to Claim 3, wherein

the heat treatment is carried out within a range of 80-150℃ in an oxygen atmosphere.

[Claim 6]

The tab terminal according to Claim 1 or 2, wherein

the tin oxide forming processing is carried out by solvent treatment.

[Claim 7]

The tab terminal according to Claim 6, wherein

the solvent treatment is treatment that is carried out immediately after welding an aluminum core wire to an end of a lead wire.

[Claim 8]

The tab terminal according to Claim 6, wherein

the solvent is a water solution that is configured including inorganic acid salt selected from the group consisting of silicate salt, borate, phosphate, sulphuric acid salt, and a mixture product of these.

[Claim 9]

The tab terminal according to Claim 8, wherein

the solvent is a water solution further including ammonium salt.

[Claim 10]

The tab terminal according to Claim 8 or 9, wherein

concentration of the water solution is 1-10 wt.%.

[Claim 11]

A manufacturing method of the tab terminal according to any of Claims 1-10, the method comprising:

a step of preparing a tab terminal by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, and

a step of applying heat treatment to the welded tab terminal.

[Claim 12]

The manufacturing method according to Claim 11, wherein

the heat treatment is carried out within a range of 60-180°C in an oxygen atmosphere.

[Claim 13]

The manufacturing method according to Claim 11, wherein

the heat treatment is carried out within a range of 80-150°C in an oxygen atmosphere.

[Claim 14]

A manufacturing method of the tab terminal according to any of Claims 1-10, the method comprising:

a step of welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material, and

a step of applying, immediately after welding, a solvent to the welded zone to deposit the solvent, wherein

the solvent is a water solution that includes an inorganic acid salt selected from the group consisting of silicate salt, borate, phosphate, sulphuric acid salt, and a mixture product of these, and wherein

concentration of the water solution is 1-10 wt.%.

[Claim 15]

The manufacturing method according to Claim 14, wherein

the solvent is a water solution further including ammonium salt.

[Claim 16]

The manufacturing method according to Claim 14 or 15, wherein,

on an occasion of applying a solvent to the welded zone, temperature of the welded zone is 80-250°C."

No. 5 Judgment by the body on the reasons for invalidation

1 Regarding the patents of the inventions according to Claims 1 to 6, and 8 to 13

In view of the case, first, Reason for invalidation 1-2 (Article 29(2) of the Patent Act) will be examined.

Note that, as shown in the above-mentioned "2(1)" of "No. 2", the Demandee has made a statement that, about a case where the correction request as of Nov. 30, 2016 is not acknowledged; that is, regarding Inventions 1 to 6, and 8 to 13 mentioned above, there is no opinion in particular against the above-mentioned Reason for invalidation 1-2.

(1) Cited Invention

A Described matters in Evidence A No. 1

In Evidence A No. 1 (Japanese Unexamined Patent Application Publication No. 2000-277398) submitted by the Demandant, there are the following statements relating to "METHOD FOR MANUFACTURING LEAD WIRE FOR CAPACITOR" together with drawings. (The underlines were applied by the body)

(A) "[0001]

[Field of the Invention] The present invention relates to a method of manufacturing a lead wire for a capacitor in which a tin-plated copper wire and an aluminum wire are welded."

(B) "[0004] The problem to be solved by the present invention is to provide a manufacturing method of a lead wire for a capacitor capable of preventing generation of whiskers."

(C) "[0005]

[Means for solving the problem] The present invention solves the problem to be solved by the following means. That is, the invention of Claim 1 is a manufacturing method of a lead wire for a capacitor in which a tin-plated copper wire and an aluminum wire are welded together, the method including a cleaning step of cleaning the lead wire for a capacitor with an alkaline cleaning liquid, a cleaning liquid removing step of removing the alkaline cleaning liquid from the lead wire for a capacitor, and a drying step of heating the lead wire for a capacitor at high temperature to prevent generation of whiskers in the weld portion.

[0006] The invention of Claim 2 is a manufacturing method of a lead wire for a capacitor in which, in the manufacturing method of a lead wire for a capacitor according to Claim 1, the cleaning step is a step of cleaning at a temperature of 90°C-99°C for about 12 minutes, and the drying step is a step of heating at a temperature of about 150°C for about 21 minutes."

(D) "[0007]

[Embodiments of the invention] Hereinafter, embodiments of the present invention will be described in more detail with reference to the drawings. FIG. 1 is a diagram showing a lead wire for a capacitor in a manner omitting some portions, and FIG. 2 is a schematic configuration diagram of a lead wire manufacturing apparatus. As shown in FIG. 1, a lead wire 1 for a capacitor is obtained by welding a copper wire 10 plated with

tin of extremely high purity and an aluminum wire 11 at a weld portion 12. In addition, as shown in FIG. 2, the lead wire manufacturing apparatus 2 includes a cleaning device 20, a liquid recovery device 21, a water washing device 22, a centrifugal separator 23, an air blow 24, a drying device 25, a cooling device 26, and a conveying device 27."

(E) "[0008] The cleaning device 20 is, for example, a cleaning tank for cleaning the lead wire for a capacitor 1 by a cleaning liquid such as a non-etching type weak alkaline cleaner (trade name: Fine Cleaner 315) for aluminum and an alloy thereof. The cleaning device 20 cleans the capacitor lead wire 1 for about 12 minutes with a cleaning liquid at a temperature of 90°C to 99°C. to degrease the aluminum wire 11 or remove the carbon generated when the copper wire 10 and the aluminum wire 11 are welded together."

(F) "[0010] The drying device 25 is a device for heating and drying the capacitor lead wire 1 and preventing a whisker from being generated in the weld portion 12. This drying device 25 heats the capacitor lead wire 1 at a temperature of about 150°C for about 21 minutes. Further, the cooling device 26 is a device for cooling the capacitor lead wire 1 heated in the drying device 25, and the conveying device 27 is a conveyor for circulation-driving the conveying unit 27a having the capacitor lead wire 1 on board."

(G) "[0011] Next, a method of manufacturing a lead wire for a capacitor according to an embodiment of the present invention will be described. As shown in FIG. 2, when the capacitor lead wire 1 is carried into the conveying unit 27a from the direction A in the drawing, the conveying device 27 conveys the conveying unit 27a in the direction B in the drawing. The capacitor lead wire 1 is cleaned in the cleaning device 20, and the aluminum wire 11 is degreased and carbon generated when the copper wire 10 and the aluminum wire 11 are welded is removed (cleaning step). Then, the capacitor lead wire 1 is blown with air in the liquid recovery device 21, and the cleaning liquid is washed away in the water washing device 22 (cleaning liquid removing step). Next, pure water is removed from the capacitor lead wire 1 by the centrifugal separator 23, and then pure water is removed by the air blow 24. Then, the capacitor lead wire 1 is dried by heating in the drying device 25, and generation of whiskers is prevented (drying step). Thereafter, the capacitor lead wire 1 is cooled in the cooling device 26 and is carried out of the conveying unit 27a in the direction C in the drawing."

(H) "[0012] The methods of manufacturing a lead wire for a capacitor according to the embodiments of the present invention have the following effects.
(1) In the embodiments of the present invention, the capacitor lead wire 1 is washed with an alkaline cleaning liquid, and after removing the cleaning liquid from the capacitor lead wire 1, the capacitor lead wire 1 is heated. As a result, after having been cleaned with the alkaline cleaning liquid, the capacitor lead wire 1 is heated at a temperature of about 150°C for about 21 minutes, thereby preventing generation of whiskers in the weld portion 12."

(I) "[0014] The present invention is not limited to the embodiments described above, and various modifications or changes may be made without departing from the scope of the present invention. For example, in an embodiment of the present invention, the capacitor lead wire 1 is heated at a temperature of 150°C for 21 minutes, but may be heated at a temperature of 100-125°C for about 4 hours, for example."

(J) "[0015]
[Advantages of the Invention] As described above in detail, according to the present invention, a lead wire for a capacitor is washed with an alkaline cleaning liquid, the alkaline cleaning liquid is removed from the lead wire for a capacitor, and the lead wire for a capacitor is heated to prevent a whisker from being generated in the weld portion, thereby being capable of preventing generation of whiskers."

(K) As viewed from the contents illustrated in FIG. 1, the aluminum wire 11 is welded to an end of the tin-plated copper wire 10.

B The inventions described in Evidence A No. 1 (Cited Inventions 1 to 3)
(A) Cited Invention 1

When the described matters of "(A) to (D), and (F) to (K)" of the above-mentioned "A" and the illustrated contents of the drawings are put together focusing attention on the matter to "heat the capacitor lead wire 1 at a temperature of about 150°C for about 21 minutes" in the drying step of the drying device 25 (the above-mentioned "A(F)"), the following invention (hereinafter, referred to as "Cited Invention 1") is described in Evidence A No. 1.

"A lead wire 1 for a capacitor in which an aluminum wire 11 is welded to an end of a tin-plated copper wire 10, wherein the lead wire 1 is heated at a temperature of about

150°C for about 21 minutes."

(B) Cited Invention 2

When the described matters and the illustrated contents of the drawings of "(A) to (E), and (G) to (L)" of the above-mentioned "A" are put together focusing attention on "cleaning the lead wire for a capacitor 1 by a cleaning liquid such as a non-etching type weak alkaline cleaner (trade name: Fine Cleaner 315) for aluminum and an alloy thereof" in the cleaning step of the cleaning device 20 (the above-mentioned "A(E)"), in Evidence A No. 1, there is described the following invention (hereinafter, referred to as "Cited Invention 2").

"A lead wire 1 for a capacitor in which an aluminum wire 11 is welded to an end of a tin-plated copper wire 10, wherein the lead wire 1 is cleaned by a cleaning liquid such as a non-etching type weak alkaline cleaner (trade name: Fine Cleaner 315) for aluminum and an alloy thereof."

(C) Cited Invention 3

When the described matters and the illustrated contents of the drawings of the above-mentioned "(A) to (D), and (F) to (L)" of "A" are put together focusing attention on a manufacturing method of "A lead wire 1 for a capacitor" of the above-mentioned Cited Invention 1, in Evidence A No. 1, there is described the following invention (hereinafter, referred to as "Cited Invention 3").

"A manufacturing method of ""A lead wire 1 for a capacitor in which an aluminum wire 11 is welded to an end of a tin-plated copper wire 10, wherein the lead wire 1 is heated at a temperature of about 150°C for about 21 minutes" (Cited Invention 1), the method comprising:

a step of welding the aluminum wire 11 to an end of the tin-plated copper wire 10; and a step of heating the lead wire 1, which has been made by welding the tin-plated copper wire 10 and the aluminum wire 11, at a temperature of about 150°C for about 21 minutes."

(2) Regarding Invention 1

A Comparison

Invention 1 and Cited Invention 1 will be compared.

(A) "A copper wire 10" of Cited Invention 1 corresponds to "core material" of "lead

wire" of Invention 1, and, in addition, "a copper wire 10" of Cited Invention 1 mentioned above is one "plated with tin", and, therefore, it can be said as "by forming a metal layer of tin on a surface" thereof. Then, "a tin-plated copper wire 10" of Cited Invention 1 corresponds to "a lead wire constituted by forming a metal layer of tin on a surface of a core material" of Invention 1.

(B) "An aluminum wire 11" of Cited Invention 1 corresponds to "aluminum core wire" of Invention 1.

(C) In Cited invention 1, it is recognized that a weld portion 12 between the tin-plated copper wire 10 and the aluminum wire 11 is heated as a matter of course by the lead wire 1 for a capacitor "being heated at a temperature of about 150°C for about 21 minutes". In addition, according to "(C), (F), (H), and (J)" of the above-mentioned "(1)A", by such heating, it is capable of "preventing generation of whiskers in the weld portion 12", and preventing generation of whiskers is nothing but suppressing growth of whiskers. Then, it can be said that, as with Invention 1, it is such that "whisker growth suppression processing being applied to a weld zone" also in Cited Invention 1.

Then, a corresponding feature between Invention 1 and Cited Invention 1 is a point that
"an aluminum core wire is welded to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core wire, and whisker growth suppression processing is applied to the weld zone between the lead wire and the aluminum core wire", and they are different in each of the following points.
<Different Feature 1>

A point that the aluminum core wire of Invention 1 has a "depression part", whereas it is unclear whether the aluminum wire 11 of Cited Invention 1 has this part.

<Different Feature 2>

A point that Invention 1 is of "tab terminal for an electrolytic capacitor", whereas Cited Invention 1 is of "lead wire for a capacitor".

<Different Feature 3>

A point that the whisker suppression processing of Invention 1 is "tin oxide forming processing", whereas it is unclear whether or not "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 is "tin oxide forming

processing".

B Judgment

The above Different Features will be discussed below.

(A) Regarding Different Feature 1

To provide a depression part in an aluminum wire used for a lead wire for a capacitor was nothing but a matter of well-known art at the time point of the priority date in question (refer to [0002], FIG. 3 and the like of Evidence A No. 3 (Japanese Unexamined Patent Application Publication No. H9-213592), and [0002], FIG. 1 and the like of Evidence A No. 4 (Japanese Unexamined Patent Application Publication No. H9-139326) submitted by the Demandant), and, therefore, no reason to prevent this from being applied to Cited Invention 1 is found.

Then, it could be conceived of by a person skilled in the art with ease to make, by applying the above-mentioned well-known art to Cited Invention 1, it be of the constitution concerning the above-mentioned Different Feature 1.

(B) Regarding Different Feature 2

To make a lead wire for a capacitor in which a tin-plated copper line and an aluminum wire are welded be a tab terminal for use in an aluminum electrolytic capacitor was nothing but a matter of well-known art at the time point of the priority date of the case (refer to [0013] and the like of Evidence A No. 2 (Japanese Unexamined Patent Application Publication No. H9-45579), and [0002] and the like of Evidence A No. 3, and [0002] and the like of Evidence A No. 4 submitted by the Demandant), and thus no reason to prevent this from being applied to Cited Invention 1 is found.

Then, it could be conceived by a person skilled in the art with ease to make, by applying the above-mentioned well-known art to Cited Invention 1, the invention be of the constitution concerning the above-mentioned Different Feature 2.

(C) Regarding Different Feature 3

In Evidence A No. 5 (Chemistry Dictionary) submitted by the Demandant, it is described that "although tin is stable in the air at room temperature, it becomes SnO2 by reacting with oxygen at a high temperature." (page 715); and, in a similar fashion, it is described in Evidence A No. 6 (Japanese Unexamined Patent Application Publication No. H9-274060) that "on a surface of a tin-plated layer, a film of tin oxide is formed by aging" ([0014]) and "the thickness of an oxide film to be formed by aging after being left in the atmosphere at the room temperature as is, and the thickness of an oxide film

to be formed at the time when being left as is in the normal atmosphere under a high temperature atmosphere as 150°C for 1 hour" ([0020]); it is described, in Evidence A No. 7 (An article entitled "Degradation Mechanism of Tinplated Contact due to temperature cycles and acceleration test methods thereof"), that, regarding a tin-plated connector, "at a high temperature ... the surface of exposed tin is oxidized rapidly due to the high temperature" (page 56); and it is described, in Evidence A No. 8 (an article entitled "Consideration regarding Electrical Destruction of Film in Pressure Joining Portion of Terminal"), that, when test terminals in which Cu (copper) substrate plating and Sn (tin) plating are applied to a Cu-Sn-Fe-P alloy were left as is at 120°C for 1000 hours, "in Sn-plated materials, most of them were tin oxide (4 [Note by the body: the notation of the original text is a Roman numeral]) (SnO2)" (page 82). Therefore, when those statements are integrated, it is recognized that the matter that, when high temperature heating is applied to a tin plating in the air (in the atmosphere), tin oxide (SnO2) is formed on the surface thereof, was a matter of common general technical knowledge at the time of the priority date of the case.

Furthermore, according to "(C), (G), (H), and (J)" of the above-mentioned "(1)A", the above-mentioned matter of "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 is a matter that is carried out in the drying step after the cleaning step of a lead wire for a capacitor. Then, although there is no statement (specification) in Evidence A No. 1 regarding a point that, under what kind of atmosphere drying is carried out, it is very common to perform drying after cleaning of a lead wire for a capacitor under an atmosphere including oxygen (that is, "under an oxygen atmosphere"), and thus it is very common to perform the above matter of "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 under an oxygen atmosphere.

Therefore, since the capacitor lead wire 1 of Cited Invention 1 mentioned above "is obtained by welding a copper wire 10 plated with tin of extremely high purity and an aluminum wire 11 at a weld portion 12." (the above-mentioned "(1)A(D)"), in light of the above-mentioned common general technical knowledge, it is obvious for a person skilled in the art that, by "being heated at a temperature of about 150°C for about 21 minutes" as in Cited Invention 1, tin oxide is formed on the weld portion 12.

Accordingly, it is recognized that "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 is one that corresponds to "tin oxide forming processing" of Invention 1, and thus Different Feature 3 mentioned above is not a substantive different feature.

(D) Summary

As described above, Invention 1 is an invention that could have been invented by a person skilled in the art with ease based on Cited Invention 1 described in Evidence A No. 1 and the well-known art.

(3) Regarding Invention 2

A Comparison

When the Invention 2 and Cited Invention 1 are compared, these are identical in the point indicated in the above-mentioned "(2)A", and are different in the following point in addition to Different Features 1 to 3 indicated in the above-mentioned "(2)A".

<Different Feature 4>

A point that Invention 2 is one in which "by the tin oxide forming processing, at least SnO or SnO2 is included in the weld zone between the lead wire and the aluminum core wire", whereas it is unclear whether or not, by "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1, at least SnO or SnO2 comes to be contained in the weld portion 12.

B Judgment

(A) Regarding Different Features 1 to 3

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(2)B".

(B) Regarding Different Feature 4

In light of the above-mentioned common general technical knowledge described in the above-mentioned "(2)B(C)", by "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1, it is obvious for a person skilled in the art that tin oxide (at least SnO2) is formed in the weld portion 12. Therefore, the above-mentioned Different Feature 4 is not a substantive different feature.

(C) Summary

As described above, Invention 2 is one that could have been invented by a person skilled in the art with ease based on Cited Invention 1 described in Evidence A No. 1 and the well-known art.

(4) Regarding Invention 3

A Comparison

As described in the above-mentioned "(2)B(C)", it is recognized that "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 is a matter that corresponds to "tin oxide forming processing", and thus, as with Invention 3, also Cited Invention 1 is one in which "tin oxide forming processing is performed by applying heat treatment to the tab terminal for an electrolytic capacitor".

Then, Invention 3 and Cited Invention 1 are different in Different Features 1 to 3 indicated in the above-mentioned "(2)A", and are identical in the remaining points.

B Judgment

(A) Regarding Different Features 1 to 3

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(2)B".

(B) Summary

As described above, Invention 3 is one that could have been invented by a person skilled in the art with ease based on Cited Invention 1 described in Evidence A No. 1 and the well-known art.

(5) Regarding Inventions 4 and 5

A Comparison

Since Cited Invention 1 is one including the matter of "being heated at a temperature of about 150°C for about 21 minutes", and this temperature is within the range of "60-180°C" of Invention 4 and "80-150°C" of Invention 5, there is no difference between Inventions 4 and 5 and Cited Invention 1 relating to the point of temperature of heat treatment.

On the other hand, in Evidence A No. 1, there is no description that the above-mentioned "being heated at a temperature of about 150°C for about 21 minutes" is performed in what kind of atmosphere.

Then, Inventions 4 and 5 and Cited Invention 1 are different in the following point in addition to Different Features 1 to 3 indicated in the above-mentioned "(2)A", and are identical in the remaining points.

<Different Feature 5>

A point that, in Inventions 4 and 5, "heat treatment" "is carried out in an oxygen atmosphere", whereas it is unclear whether or not "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 is carried out in an oxygen atmosphere.

B Judgment

(A) Regarding Different Features 1 to 3

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(2)B".

(B) Regarding Different Feature 5

As having been judged in "(C)" of the above-mentioned "(2)B", there is no statement (specification) in particular in Evidence A No. 1 that, under what kind of atmosphere drying is performed, and, in addition, it is very common to perform drying after cleaning a lead wire for a capacitor under the atmosphere including oxygen (that is, "under an oxygen atmosphere"), and, therefore, it is very common to perform the above-mentioned "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 1 in an oxygen atmosphere.

(C) Summary

As described above, Inventions 4 and 5 are ones that could have been invented by a person skilled in the art with ease based on Cited Invention 1 described in Evidence A No. 1 and the well-known art.

(6) Regarding Invention 6

A Comparison

Invention 6 and Cited Invention 2 will be compared.

(A) As having been described in "(A) and (B)" of the above-mentioned "(2)A", "the tin-plated copper wire 10" of Cited Invention 2 corresponds to "a lead wire constituted by forming a metal layer of tin on a surface of a core material" of Invention 6, and "the aluminum wire 11" of Cited Invention 2 corresponds to "aluminum core wire" of Invention 6.

(B) Although it can be said that the matter of "cleaned by a cleaning liquid such as a non-etching type weak alkaline cleaner (trade name: Fine Cleaner 315) for aluminum and an alloy thereof" in Cited Invention 2 is "solvent treatment", there is no description in Evidence A No. 1 to the extent that tin oxide is formed by the above-mentioned "cleaned by a cleaning liquid".

(C) In Cited Invention 2, by the matter that the capacitor lead wire 1 is "cleaned by a

cleaning liquid", also the weld portion 12 between the tin-plated copper wire 10 and the aluminum wire 11 is cleaned by the cleaning liquid as a matter of course.

Then, the corresponding feature between Invention 6 and Cited Invention 2 is a point that
"an aluminum core wire is welded to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core wire, and solvent treatment is applied to a weld zone between the lead wire and the aluminum core wire", and differ in each of the following points.
<Different Feature 6>

A point that the aluminum core wire of Invention 6 has a "depression part", whereas it is unclear whether or not the aluminum wire 11 of Cited Invention 2 has this.

<Different Feature 7>

A point that Invention 6 is of "tab terminal for an electrolytic capacitor", whereas Cited Invention 2 is of "lead wire for a capacitor".

<Different Feature 8>

A point that "Solvent treatment" of Invention 6 is "tin oxide forming processing" (that is, "whisker suppression processing"), whereas it is unclear whether or not "cleaned by a cleaning liquid such as a non-etching type weak alkaline cleaner (trade name: Fine Cleaner 315) for aluminum and an alloy thereof" of Cited Invention 2 is "tin oxide forming processing".

B Judgment

(A) Regarding Different Feature 6

As having been described in the above-mentioned "(2)B(A)", to provide a depression part in an aluminum wire to be used for a lead wire for a capacitor was nothing but a matter of well-known art at the time point of the priority date of the case, and no reason to prevent this from being applied to Cited Invention 2 is found.

Then, it could be conceived by a person skilled in the art with ease to make, by applying the above-mentioned well-known art to Cited Invention 2, it be of the constitution concerning the above-mentioned Different Feature 6.

(B) Regarding Different Feature 7

As having been described in the above-mentioned "(2)B(B)", to make a lead

wire for a capacitor in which a tin-plated copper wire and aluminum wire are welded be a tab terminal for use in an aluminum electrolytic capacitor was nothing but a matter of well-known art at the time point of the priority date of the case, and no reason to prevent this from being applied to Cited Invention 2 is found.

Then, it could be conceived by a person skilled in the art with ease to make, by applying the above-mentioned well-known art to Cited Invention 2, it be of the constitution concerning the above-mentioned Different Feature 7.

(C) Regarding Different Feature 8

Regarding "solvent treatment" of Invention 6, it is described in the Description of the patent of the case that "as a treatment solvent to be used in the present invention, it is preferred to use a water solution including inorganic acid salt selected from the group consisting of: silicate salt, borate, phosphate, and sulphuric acid salt, and, further, it is preferred to be a water solution including ammonium salt." ([0031]) and "by using the above treatment solvent, it is possible to oxidize tin to the extent that a negative effect is not exerted on solder wettability." ([0032]). Then, as viewed from these statements, it is recognized that tin oxide is formed by performing processing of a tab terminal for an electrolytic capacitor using a water solution including inorganic acid salt selected from the group consisting of silicate salt, borate, phosphate, and sulphuric acid salt.

On the other hand, "Fine Cleaner 315" cited in Cited Invention 2 as "non-etching type weak alkaline cleaner" includes, according to the statements of Evidence A No. 9 (Japanese Unexamined Patent Application Publication No. 2004-253311) submitted by the Demandant that "As an alkali cleaning liquid, a 3% water solution of Fine Cleaner 315 made by Nihon Parkerising Co., Ltd. (sodium borate (hydrate), 60-65% by mass; condensed phosphate, 25-30% by mass; a surface active agent, 5-10% by mass; a chelating agent, 1% by mass or less) was used." ([0041]), condensed phosphate and the like, and is used as an alkali cleaning liquid (water solution), and, therefore, the cleaning liquid of Cited Invention 2 is a solution that is included in the above-mentioned treatment solvent described in the Description of the patent of the case.

Then, it is recognized that, also in Cited Invention 2, tin oxide is formed in the weld portion 12 of the tin-plated copper wire 10 and the aluminum wire 11 due to the matter of "cleaned by a cleaning liquid such as a non-etching type weak alkaline cleaner (trade name: Fine Cleaner 315) for aluminum and an alloy thereof", and thus growth of whiskers is suppressed.

Therefore, Different Feature 8 is not a substantive different feature.

(D) Summary

As described above, Invention 6 is one that could have been invented by a person skilled in the art with ease based on Cited Invention 2 described in Evidence A No. 1 and the well-known art.

(7) Regarding Invention 8

A Comparison

As described in the above-mentioned "(6)B(C)", since, as "cleaning liquid " of Cited Invention 2, Fine Cleaner 315 including condensed phosphate and the like is used, "cleaning liquid " corresponds to "a water solution that includes an inorganic acid salt selected from the group consisting of silicate salt, borate, phosphate, sulphuric acid salt, and a mixture product of these" of Invention 8.

Then, Invention 8 and Cited Invention 2 are different in Different Features 6 to 8 indicated in the above-mentioned "(6)A", and are identical in the remaining points.

B Judgment

(A) Regarding Different Features 6 to 8

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(6)B".

(B) Summary

As described above, Invention 8 is an invention that could have been invented by a person skilled in the art with ease based on Cited Invention 2 described in Evidence A No. 1 and the well-known art.

(8) Regarding Invention 9

A Comparison

When Invention 9 and Cited Invention 2 are compared, these are different in the following point in addition to Different Features 6 to 8 indicated in the above-mentioned "(6)A", and are identical in the remaining points.

<Different Feature 9>

A point that the solvent of Invention 9 is "a water solution further including ammonium salt, whereas the cleaning liquid of Cited Invention 2 does not include ammonium salt.

B Judgment

(A) Regarding Different Features 6 to 8

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(6)B".

(B) Regarding Different Feature 9

To use a water solution that is configured including ammonium salt in addition to inorganic acid salt such as phosphate as a degreasing treatment solution of a metal material was nothing but a matter of well-known art at the time point of the priority date of the case (refer to [0015] and Tables 1 and 2 of Evidence A No. 13 (Japanese Unexamined Patent Application Publication No. 2000-144445) submitted by the Demandant), and one of the purposes of the cleaning liquid of Cited Invention 2 is degreasing (the above-mentioned "(1)A(E)"). Therefore, it is a matter that can be made by a person skilled in the art accordingly to make, by applying the above-mentioned well-known art to the cleaning liquid of Cited Invention 2, ammonium salt also be included therein, and also the effect exerted by doing so is within a range that can be predicted by a person skilled in the art from the effects of Cited Invention 2a and the above-mentioned well-known art.

(C) Summary

As described above, Invention 9 is an invention that could have been invented by a person skilled in the art with ease based on Cited Invention 2 described in Evidence A No. 1 and the well-known art.

(9) Regarding Invention 10

A Comparison

When Invention 10 and Cited Invention 2 are compared, these are different in the following point in addition to Different Features 6 to 8 indicated in the above-mentioned "(6)A", and are identical in the remaining points.

<Different Feature 10>

A point that, in Invention 10, "concentration of the water solution is 1-10 wt.% ", whereas, in Cited Invention 2, the concentration of the cleaning liquid is unclear.

B Judgment

(A) Regarding Different Features 6 to 8

It is the same as having been judged in "(A) to (C)" of the above-mentioned

"(6)B".

(B) Regarding Different Feature 10

As the cleaning liquid in Cited Invention 2, Fine Cleaner 315 and the like is used, and, according to the statements of Evidence A No. 9 that "As an alkali cleaning liquid, a 3% water solution of Fine Cleaner 315 made by Nihon Parkerising Co., Ltd. (sodium borate (hydrate), 60-65% by mass; condensed phosphate, 25-30% by mass; a surface active agent, 5-10% by mass; a chelating agent, 1% by mass or less) was used." ([0041]), the concentration of an alkali cleaning liquid (water solution) using Fine Cleaner 315 is made to be 3%. Therefore, in Cited Invention 2, it can be normally achieved by a person skilled in the art to make the concentration of the cleaning liquid (water solution) be 1-10 wt.%, and thus it is not remarkable.

(C) Summary

As described above, Invention 10 is one that could have been invented by a person skilled in the art with ease based on Cited Invention 2 described in Evidence A No. 1 and the well-known art.

(10) Regarding Invention 11

A Comparison

Invention 11 and Cited Invention 3 will be compared.

(A) Among the matters specifying Invention 11, regarding the matters specifying the invention described in Claim 1 cited by Claim 11 (that is, the matters specifying the invention of Invention 1), Invention 11 and Cited Invention 3 are, as with the comparison result concerning Invention 1 (the above-mentioned "(2)A"), different in the above-mentioned Different Features 1 to 3, and are identical in the remaining points.

(B) Among the matters specifying the invention of Invention 11, regarding the matters specifying the invention concerning the manufacturing method described in Claim 11, first, it can be said that "a step of welding the aluminum wire 11 to an end of the tin-plated copper wire 10" of Cited Invention 3 is a step of "preparing" the capacitor lead wire 1 that becomes a subject of heating. Then, "a step of preparing a tab terminal by welding an aluminum core wire having a depression part to an end of a lead wire constituted by forming a metal layer of tin on a surface of a core material" of Invention 11 and "a step of welding the aluminum wire 11 to an end of the tin-plated copper wire 10" of Cited Invention 3 are not different from each other in the points other than

Different Feature 1 (whether or not the aluminum core wire has a depression part) and Different Feature 2 (whether it is a tab terminal for an electrolytic capacitor or a lead wire for a capacitor) indicated in the above-mentioned "(2)A".

In addition, it can be said that "a step of heating at a temperature of about 150°C for about 21 minutes" of Cited Invention 3 is "a step of applying heat treatment". Then, also regarding "a step of applying heat treatment to the welded tab terminal" of Invention 11 and "a step of heating the capacitor lead wire 1, which has been made by welding the tin-plated copper wire 10 and the aluminum wire 11, at a temperature of about 150°C for about 21 minutes" of Cited Invention 3, it cannot be acknowledged a different point besides the above-mentioned Different Feature 1 and Different Feature 2.

Then, Invention 11 and Cited Invention 3 are different in Different Features 1 to 3 indicated in the above-mentioned "(2)A", and are identical in the remaining points.

B Judgment

(A) Regarding Different Features 1 to 3

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(2)B".

(B) Summary

As described above, Invention 11 is one that could have been invented by a person skilled in the art with ease based on Cited Invention 3 described in Evidence A No. 1 and the well-known art.

(11) Regarding Inventions 12 and 13

A Comparison

Cited Invention 3 is an invention in which "heating at a temperature of about 150°C for about 21 minutes" is performed, and the temperature thereof is within the range of "60-180°C" of Invention 12 and "80-150°C" of Invention 13, and, therefore, regarding the point of the temperature of heat treatment, there is no difference between Inventions 12 and 13 and Cited Invention 3.

On the other hand, in Evidence A No. 1, there is no description of the kind of atmosphere under which the above-mentioned "being heated at a temperature of about 150°C for about 21 minutes" is carried out.

Then, when Inventions 12 and 13 and Cited Invention 3 are compared, the two are different in the following point in addition to Different Features 1 to 3 indicated

in the above-mentioned "(2)A", and are identical in the remaining points.

<Different Feature 11>

A point that, in Inventions 12 and 13, "heat treatment" "is carried out in an oxygen atmosphere", whereas, it is unclear whether "heating at a temperature of about 150°C for about 21 minutes" of Cited Invention 3 is carried out in an oxygen atmosphere.

B Judgment

(A) Regarding Different Features 1 to 3

It is the same as having been judged in "(A) to (C)" of the above-mentioned "(2)B".

(B) Regarding Different Feature 11

Since Different Feature 11 is substantially the same as the above-mentioned Different Feature 5, to perform the above-mentioned "being heated at a temperature of about 150°C for about 21 minutes" of Cited Invention 3 under an oxygen atmosphere can be, as with the similar reason to the above-mentioned "(5)B(B)", normally performed by a person skilled in the art.

(C) Summary

As described above, Inventions 12 and 13 are ones that could have been invented by a person skilled in the art with ease based on Cited Invention 3 described in Evidence A No. 1 and the well-known art.

(12) Summary regarding the patents of the inventions according to Claims 1 to 6 and 8 to 13

As described above, Inventions 1 to 6 and 8 to 13 are ones for which the Demandee should not be granted a patent in accordance with the provisions of Article 29(2) of the Patent Act. Therefore, since the patents of the inventions according to Claims 1 to 6 and 8 to 13 have been made in violation of the provisions of Article 29(2) of the Patent Act, the patent of the inventions according to Claims 1 to 6 and 8 to 13 should be invalidated, without examining Reasons for invalidation 1-1, and 2 to 4.

2 Regarding the patent of the invention according to Claim 7

With respect to the patent of the invention according to Claim 7 (Invention 7) that is not a subject of Reasons for invalidation 1-2 examined in the above-mentioned

"1", Reasons for invalidation 2 to 4 are being alleged, and thus Reasons for invalidation 4 (Article 36(6)(ii) of the Patent Act) will now be discussed below, first.

(1) The Demandant's allegation

In "(1-4) Article 36(6)(ii) of the Patent Act (Article 123(1)(iv) of the Patent Act)" (pages 10-11) of the written demand for trial, the Demandant alleges as follows regarding Reasons for invalidation 4. (Note that the numbers such as 4-a to c were assigned by the body)

A Reason for invalidation 4-a

"Invention 1 is one that has a constituent component that "whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing", and, here, since it is recognized that each of "whisker (growth) suppression processing" and "tin oxide forming processing" is a step for manufacturing a tab terminal for an electrolytic capacitor, it is obvious that there is described in Invention 1 a manufacturing method of a tab terminal for an electrolytic capacitor. In addition, it cannot be acknowledged that, before the priority date of the patent of the case, there existed a situation that it was not possible to directly specify a tab terminal for an electrolytic capacitor by its structure or characteristics, or there existed an utterly impractical situation to do so.

Accordingly, Invention 1 and Inventions 2 to 10 that depend from it are unclear."

B Reasons for invalidation 4-b

"In addition, although Invention 1 is one that has a constituent component that "whisker growth suppression processing is applied to a weld zone between the lead wire and the aluminum core wire, and wherein the whisker suppression processing is tin oxide forming processing", there is no specification regarding "formation amount" of tin oxide, and it is not clear to what extent "tin oxide forming processing" forms tin oxide in comparison with tin oxide formed in a manner exposing tin to air. Even when it is interpreted, from the constituent component of "the whisker suppression processing is tin oxide forming processing", as the formation amount of tin oxide is "an amount of a degree capable of suppressing growth of whiskers", it is still not clear that, when whisker growth is suppressed to what extent, it can be judged as being "capable of suppressing growth of whiskers", and, therefore, also in this case, "formation amount"

of tin oxide by "tin oxide forming processing" cannot be specified.

Therefore, Invention 1 and Inventions 2 to 10 depending therefrom are unclear."

C Reasons for invalidation 4-c

"Further, Invention 3 includes the constituent component that "the tin oxide forming processing is performed by applying heat treatment to the tab terminal", and Invention 6 has the constituent component that "the tin oxide forming processing is carried out by solvent treatment". Here, it is recognized that "heat treatment" and "solvent treatment" are steps for manufacturing a tab terminal for an electrolytic capacitor, and it is obvious that there is described, in Inventions 3 and 6, a manufacturing method of a tab terminal for an electrolytic capacitor. In addition, it cannot be acknowledged that, before the priority date of the patent of the case, there existed a situation that it was not possible to directly specify a tab terminal for an electrolytic capacitor by its structure or characteristics, or there existed an utterly impractical situation to do so.

Therefore, Invention 3 and Inventions 4 to 5 depending therefrom and Invention 6 and Claims 7 to 10 depending therefrom are unclear."

(2) Judgment by the body

First, the above-mentioned Reason for invalidation 4-c will now be discussed below.

Inventions 1 to 10 are inventions of a product, which is "tab terminal for an electrolytic capacitor", and, relating to "tin oxide forming processing" described in Claim 1, it is described, in Claim 3 that refers to the above Claim 1, that "the tin oxide forming processing is performed by applying heat treatment to the tab terminal for an electrolytic capacitor", and, in addition, it is described similarly, in Claim 6 that refers to the above Claim 1, that "the tin oxide forming processing is carried out by solvent treatment".

Then, since the above-mentioned matters of "is performed by applying heat treatment to the tab terminal for an electrolytic capacitor" and "is carried out by solvent treatment" are ones that indicate technical features related to manufacturing of a tab terminal for an electrolytic capacitor, it can be said that, in the above-mentioned Claims 3 and 6, there is described a manufacturing method of that product.

Here, in a case where a manufacturing method of a product is described in the Scope of Claims concerning an invention of the product, it is reasonable to understand that a case where the statements of the Scope of Claims in question can be said to be

conforming to the requirements of "clarity of the invention" prescribed in Article 36(6)(ii) of the Patent Act is limited to a case where it is not possible to directly specify the relevant product by its structure or characteristics at the time of application, or there exists an utterly impractical situation to do so (hereinafter, referred to as "Impossible/Impractical Circumstances") (Second petty bench of Supreme court, Jun. 5, 2015, Heisei 24 (Ju) No. 1204 and Heisei 24 (Ju) No. 2658).

However, in the description of the patent of the case, there is no statement at all about Impossible/Impractical Circumstances, and thus it cannot be said that Impossible/Impractical Circumstances are obvious for a person skilled in the art.

In addition, since the Demandee made a request for correction including the matter of correction to delete Claims 3 to 10 as of Nov. 30, 2016, the Demandee has not made a counterargument to the above-mentioned Reason for invalidation 4-c or an allegation of Impossible/Impractical Circumstances in the written reply for the trial case as of the same date.

Further, as indicated in "2(1)" of the above-mentioned "No. 2", the Demandee stated that, about a case where the correction request as of Nov. 30, 2016 is not acknowledged, there is no opinion in particular against the above-mentioned Reason for invalidation 4.

Therefore, the inventions according to Claims 3 and 6 (Inventions 3 and 6) are not clear, and thus the inventions according to Claims 4 and 5 that refer to the above Claim 3 (Inventions 4 and 5) and the inventions according to Claims 7 to 10 that refer to the above Claim 6 (Inventions 7 to 10) are not clear either.

(3) Summary regarding the patent of the invention according to Claim 7

As described above, at least in the point of Reason for invalidation 4-c, the invention according to Claim 7 (Invention 7) is not clear, and, therefore, the patent of the invention according to Claim 7 is one that has been made with respect to a patent application that does not meet the requirement stipulated in Article 36(6)(ii) of the Patent Act. Accordingly, without examining Reasons for invalidations 2 and 3, the patent of the invention according to Claim 7 should be invalidated.

No. 6 Closing

As indicated in "1" of the above-mentioned "No. 5", the patent for the inventions according to Claims 1 to 6 and 8 to 13 has been made in violation of the provisions of Article 29(2) of the Patent Act, and, therefore, falls under Article 123(1)(ii) of the same Act, and should be invalidated. In addition, since, as indicated

in "2" of the above-mentioned "No. 5", the patent for the invention according to Claim 7 was made with respect to the patent application that does not meet the requirement stipulated in Article 36(6)(ii) of the same Act, it falls under Article 123(1)(iv) of the same Act, and thus should be invalidated.

The costs in connection with the trial shall be borne by the Demandee under the provisions of Article 61 of Code of Civil Procedure which is applied mutatis mutandis pursuant to Article 169(2) of the Patent Act.

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

December. 26, 2018

Chief administrative judge: SAKAI, Tomohiro
Administrative judge: KOKUBU, Naoki
Administrative judge: INOUE, Shinichi