2006 (Gyo-ke) 10563 Case of seeking rescission of the JPO decision of dismissal of motion to invalidation of Patent

Rendition of judgment: May 30, 2008; Date of conclusion of oral argument: March 21, 2008

Judgment

Plaintiff: Tamura Kaken Corporation

Counsel attorneys: NAKAJIMA Satoshi and ABE Takanori

Counsel patent attorney: AGATA Akira

Defendant: Taiyo Ink MFG, Co., Ltd

Counsel patent attorneys: SUZUE Takehiko, KONO Akira, NAKAMURA Makoto, and HORIUCHI Mihoko

Sub-agent of a counsel patent attorney: OGA Masahiro

With regard to the abovementioned case between the parties mentioned above, this court shall render the judgment as follows, based on the opinions heard from the Commissioner of the Japan Patent Office pursuant to Article 180-2 of the Patent Act.

Main Text

The plaintiff's claim is dismissed.

The plaintiff shall bear the court costs.

Facts and reasons

No. 1 Judicial decision sought by the plaintiff

A judgment where "the court shall rescind the decision made by the Japan Patent Office (JPO) on November 28, 2006 with regard to the case seeking invalidation of a patent No. 2005-80204."

No.2 Outline of the case

The plaintiff filed a request to the Japan Patent Office (JPO) for a trial for invalidation of a patent for the inventions defined by Claim 1 and Claim 22 included in the scope of claims in the description for the defendant's patent mentioned in 1(1) below (hereinafter referred to as the "Patent") (provided, however, that the abovementioned description shall be the description amended by the written amendment dated July 17, 1997; hereinafter such description shall be referred to as the "Description"), and the JPO made a decision to the effect that the Patent should be invalidated (hereinafter referred to as the "Preceding JPO Decision"). Therefore, the defendant filed an action to seek cancellation of the Preceding JPO Decision (hereinafter referred to as the "Preceding Suit"). Subsequently, the defendant filed a request for a trial for correction, and the

Intellectual Property High Court made an order to cancel the Preceding JPO Decision.

In this case, the plaintiff seeks rescission of a JPO decision that approved the corrections made by the defendant under a request, which was deemed to have been made pursuant to Article 134-3, paragraph (5) of the current Patent Act (hereinafter such corrections shall be referred to as the "Corrections"), and dismissed the request for a trial for invalidation (this JPO decision shall hereinafter be referred to as the "JPO Decision").

1. Circumstances of the procedures taken at the JPO and other relevant authorities

(1) Patent (Exhibits Otsu No. 1 and No. 2)

Patentee: Defendant

Name of the inventions: "Photosensitive thermosetting resin composition and method of forming solder resist pattern by use thereof"

Date of filing: November 30, 1987 (Japanese Patent Application No. SHO 62-299967)

Date of registration: November 14, 1997

Patent number: 2133267

(2) Procedures for the trial for invalidation in question, etc.

Date of request for a trial: June 30, 2005 (Case seeking invalidation of Patent No. 2005-80204)

Date of the Preceding JPO Decision: November 29, 2005

Conclusion reached in the Preceding JPO Decision: "The patent for the inventions stated in the scope of claims of the patent registered as Patent No. 2133267 shall be invalidated."

Date of filing the Preceding Suit: January 6, 2006 (2006 (Gyo-Ke) 10007)

Date of request for trial for correction: March 30, 2006

Date of decision to cancel the JPO Decision in the Preceding Suit: April 26, 2006

Date on which the Corrections were deemed to have been requested: July 5, 2006

Date of the JPO Decision: November 28, 2006

Conclusion reached in the JPO Decision: "The corrections are allowed. The request for a trial for invalidation in question is dismissed."

Date of service of transcript of the JPO Decision: December 8, 2006 (to the plaintiff)

2. The inventions prior to the Corrections and the inventions after the Corrections, which were found by the JPO Decision

The JPO Decision found the inventions prior to the Corrections as stated in Claim 1 and Claim 22 included in the scope of claims in the Description (hereinafter the invention stated in Claim 1 included in the scope of claims and the invention stated in Claim 22 included in said scope of claims shall be referred to as "Initial Invention 1" and

"Initial Invention 2," respectively) to be the following inventions corrected through the Corrections (the underlined parts are the corrected portions; Claim 22 included in the scope of claims prior to the Corrections has been corrected to Claim 21 in connection with the deletion of Claim 18 included therein; hereinafter the inventions stated in Claim 1 and Claim 21 included in the scope of claims after the Corrections shall be referred to as "Present Invention 1" and "Present Invention 2," respectively, and both inventions shall be collectively referred to as the "Present Inventions").

"1 A photosensitive thermosetting resin composition, comprising,

(A) a photosensitive prepolymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof, which is one type or two or more types of photosensitive preploymer selected from one or more of the groups prescribed in (a), (b), or (c) below:

(a) (a-1-1) a reaction product obtained by causing the secondary hydroxyl group of (a-1) a complete esterification product of the epoxy group produced by the esterification reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid to react with any one type or two or more types of saturated or unsaturated polybasic acid anhydride, such as phthalic acid, tetrahydrophthalic acid, hexahydrophthalic acid, maleic acid, succinic acid, itaconic acid, chlorendic acid, methylendomethylenetetrahydrophthalic acid, methyltetrahydrophthalic acid, trimellitic acid, pyromellitic acid, or benzophenonetetracarboxylic acid;

(a-1-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned complete esterification product (a-1);

(a-2-1) a reaction product of a saturated or unsaturated polybasic acid anhydride and the secondary hydroxyl group of (a-2), a partial esterification product of epoxy group produced by the esterification reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid; and

(a-2-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned partial esterification product (a-2);

(b) (b-1) a complete etherification product of epoxy group produced by the etherification reaction of a novolak type epoxy compound and an unsaturated phenol compound;

(b-1-1) a reaction product of the secondary hydroxyl group of the abovementioned

complete etherification product (b-1) and a saturated or unsaturated polybasic acid anhydride;

(b-1-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned complete etherification product (b-1);

(b-2) a partial etherification product of the epoxy group produced by the etherification reaction of a novolak type epoxy compound and an unsaturated phenol compound;

(b-2-1) a reaction product of the secondary hydroxyl group of the abovementioned partial etherification product (b-2) and a saturated or unsaturated polybasic acid anhydride; and

(b-2-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned partial etherification product (b-2); and

(c) allyl compounds, such as (c-1) diallyl phthalate prepolymers and (c-2) diallyl isophthalate prepolymers;

(B) a photoinitiator;

(C) a photopolymerizable vinyl monomer and/or an organic solvent as a diluent; and

(D) a finely powdered epoxy compound possessing at least two epoxy groups in the molecular unit thereof and exhibiting sparing solubility in the abovementioned diluent to be used, which is at least one epoxy compound in a solid or semi-solid state selected from a group consisting of diglycidyl phthalate resin, heterocyclic epoxy resin, bixylenol type resin, biphenol type epoxy resin, and tetraglycidylxy lenoylethane resin.

Provided that, a photosensitive thermosetting resin composition, comprising (A) "a reaction product obtained by causing phthalic anhydride to react with the epoxy acrylate obtained by causing a cresol novolak type epoxy resin to react with acrylic acid, (B) "2-methyl anthraquinone" and "dimethyl benzyl ketal" corresponding to a photoinitiator, (C) "pentaerythritoltetraacrylate" and "cellosolve acetate," and (D) a multifunctional epoxy resin ("TEPIC" manufactured by Nissan Chemical Industries, Ltd.; Registered Trademark) which is "an epoxy compound possessing at least two epoxy groups in the molecular unit thereof," shall be excluded."

"21 A method of forming a solder resist pattern on a printed circuit board which is characterized by the processes of first applying a photosensitive thermosetting resin composition comprising:

(A) a photosensitive prepolymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof, which is one type or two or more types of photosensitive prepolymers selected from one or more of the groups prescribed in (a), (b), or (c) below,"

(a) (a-1-1) a reaction product obtained by causing the secondary hydroxyl group of (a-1) a complete esterification product of the epoxy group produced by the esterification reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid to react with any one type or two or more types of saturated or unsaturated polybasic acid anhydrides, such as phthalic acid, tetrahydrophthalic acid, hexahydrophthalic acid, maleic acid, succinic acid, itaconic acid, chlorendic acid, methylendomethylenetetrahydrophthalic acid, methyltetrahydrophthalic acid, trimellitic acid, pyromellitic acid, or benzophenonetetracarboxylic acid;

(a-1-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned complete esterification product (a-1);

(a-2-1) a reaction product of a saturated or unsaturated polybasic acid anhydride and the secondary hydroxyl group of (a-2), a partial esterification product of epoxy group produced by the esterification reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid; and

(a-2-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned partial esterification product (a-2);

(b) (b-1) a complete etherification product of epoxy group produced by the etherification reaction of a novolak type epoxy compound and an unsaturated phenol compound;

(b-1-1) a reaction product of the secondary hydroxyl group of the abovementioned complete etherification product (b-1) and a saturated or unsaturated polybasic acid anhydride;

(b-1-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned complete etherification products(b-1);

(b-2) a partial etherification product of the epoxy group produced by the etherification reaction of a novolak type epoxy compound and an unsaturated phenol

compound;

(b-2-1) a reaction product of the secondary hydroxyl group of the abovementioned partial etherification product (b-2) and a saturated or unsaturated polybasic acid anhydride; and

(b-2-2) a reaction product obtained by causing the reaction product of a diisocyanate and a (meth)acrylate possessing one hydroxyl group in the molecular unit thereof to react with the secondary hydroxyl group of the abovementioned partial etherification product (b-2); and

(c) allyl compounds, such as (c-1) diallyl phthalate prepolymers and (c-2) diallyl isophthalate prepolymers;

(B) a photoinitiator;

(C) a photopolymerizable vinyl monomer and/or an organic solvent as a diluent; and

(D) a finely powdered epoxy compound possessing at least two epoxy groups in the molecular unit thereof and exhibiting sparing solubility in the abovementioned diluent to be used, which is at least one epoxy compound in a solid or semi-solid state selected from a group consisting of diglycidyl phthalate resin, heterocyclic epoxy resin, bixylenol type resin, biphenol type epoxy resin, and tetraglycidylxy lenoylethane resin; and optionally,

(E) a curing agent for epoxy resin,

on the surface of said printed circuit board, and exposing the applied layer of said composition selectively to an actinic ray through a photomask having a given pattern, developing the unexposed portion of the applied layer with a developing solution thereby giving rise to a resist pattern, and thereafter thermosetting said finely powdered epoxy compound by application of heat.

Provided that, a photosensitive thermosetting resin composition, comprising (A) "a reaction product obtained by causing phthalic anhydride to react with epoxy acrylate obtained by causing a cresol novolak type epoxy resin to react with acrylic acid," (B) "2-methyl anthraquinone" and "dimethyl benxyl ketal" corresponding to a photoinitiator, (C) "pentaerythritol tetraacrylate" and "cellosolve acetate," (D) a multifunctional epoxy resin ("TEPIC" manufactured by Nissan Chemical Industries, Ltd.; Registered Trademark) which is "an epoxy compound possessing at least two epoxy groups in the molecular unit thereof," and (E) "2-ethyl-4-methylimidazole" shall be excluded from the abovementioned photosensitive thermosetting resin composition." (Notes of the judgment: According to the corrected description attached to the written request for a trial for correction for the Patent (Exhibit Ko No. 11), the statements made in the JPO Decision regarding the "Details of the Corrections" are found to be errors where the

portions "(E) '2-ethyl-4-methylimidazole'" and "from the abovementioned photosensitive thermosetting resin composition" have been omitted.)

3. Gist of the reasons given in the JPO Decision

The JPO Decision, while finding the inventions prior to the Corrections to be identical to the inventions stated in the description mentioned in (i) below (hereinafter referred to as the "Prior Description"), approved the Corrections based on a determination that the Corrections were made within the scope of matters stated in the description and for the purpose of restricting the scope of claims or clarifying an ambiguous statement, and that the Corrections did not substantially enlarge or alter the scope of claims. The JPO Decision also determined that the Patent should not be invalidated for the following reasons: (i) the Present Inventions would not have been easily conceived of by a person ordinarily skilled in the art (hereinafter referred to as a "person skilled in the art") based on the invention disclosed in the publication mentioned in (ii) below (hereinafter such invention shall be referred to as the "Invention Based on Exhibit Ko No. 3"); and (ii) according to the statements in the Description, the Present Inventions were not incomplete and the statements in the Description were not insufficient.

The reasons given in the JPO Decision are as cited in the following items (obvious errors have been corrected). Among such reasons, "Correction 1" and "Correction 2" have been made to replace the term "Initial Invention 1" with "Present Invention 1" and the term "Initial Invention 2" with "Present Invention 2," respectively. In addition, the exhibit number used in the JPO Decision is the same as that used in the principal action.

(i) The description originally attached to the application, Japanese Patent Application No. SHO 62-114079, which was laid open as Japanese Patent Publication No. SHO 63-278052 (Exhibit Ko No. 1)

(ii) Japanese Patent Publication No. SHO 61-243869 (Exhibit Ko No. 3)

(1) Holdings of this court on the request for correction in question

A. Matters stated in the Prior Description

"The matters stated in the Prior Description shall be stated based on its Japanese Patent Publication No. SHO 63-278052 (Exhibit Ko No. 1).

(1) "1. A photosensitive film composition comprising (a) a reaction product obtained by reacting an epoxy resin possessing at least two terminal (note: the kanji character for "terminal" is found to be an error) epoxy groups with an unsaturated carboxylic acid possessing one ethylene bond at about 0.7 to 1.5 mol per one epoxy equivalent of said epoxy resin, and then reacting the same with polybasic acid anhydride at 0.2 to 1 mol per one epoxy equivalent of said epoxy resin, (b) an unsaturated compound possessing

at least two ethylene bonds and (c) a sensitizer." (scope of claims)

(2) "The present invention relates to a photosensitive film composition, and more particularly relates to a photosensitive epoxy resin film composition which shall be used as a negative type photoresist in which the portion of this composition irradiated with ultraviolet rays is cured and the unexposed portion (note: the Kanji character for the term "unexposed" is found to be an error) can be removed by an aqueous alkali solution. In the past, regarding negative type photosensitive film compositions which may be used as a protective coat of etching resist, plating resist, or solder resist in the formation of printed wiring board, [...], strenuous efforts have been made in handling them.

The object of the present invention is to minimize the abovementioned risks and to provide a photosensitive film composition which is capable of obtaining a coating property excelling in desirable resolution, flexibility, adhesion, chemical resistance and adhesion, and of forming a photosensitive film which can be developed by alkali water." (line 15 in the lower left column to line 16 in the lower right column on page 1).

(3) "The feature of the photosensitive film composition of the inventions resides in the composition of (a) a reaction product obtained by reacting an epoxy resin possessing at least two terminal (note: the kanji character for term "terminal" is found to be an error) epoxy groups with an unsaturated carboxylic acid possessing one ethylene bond at about 0.7 to 1.5 mol per one epoxy equivalent of said epoxy resin, and then reacting the same with polybasic acid anhydride at 0.2 to 1 mol per one epoxy equivalent of said epoxy resin, (b) an unsaturated compound possessing at least two ethylene bonds and (c) a sensitizer." (line 17 in the lower right column on page 1 to line 5 in the upper left column on page 2).

(4) The epoxy resin to be used in the present invention shall be a specific multifunctional epoxy resin, such as the products of Yuka Shell Epoxy Kabushiki Kaisha marketed under the registered trademark designation of "EPIKOTE"-828, [...], those of Nihon Ciba-Geigy K.K. marketed under the registered trademark designation of "YL-931, 604," those of Nissan Chemical Industries, Ltd., marketed under the registered trademark designation of "TEPIC", and those of the Celanese Corporation marketed under the registered trademark designation of "EPI-REZ SU8." (line 10 in the lower left column to line 3 in the upper right column on page 2).

(5) "The unsaturated carboxylic acid possessing one α, β-ethylene bond may be acrylic acid, methacrylic acid, crotonic acid, or cinnamic acid. The preferable unsaturated carboxylic acid possessing ethylene bond to be used in the present invention is acrylic acid." (lines 4 to 8 in the upper right column on page 2).

(6) "The polybasic acid anhydride as described above may be maleic acid anhydride,

[…], acid phthalic anhydride, […]. The preferable polybasic acid anhydride to be used in the inventions is diacid anhydride among the abovementioned examples (note: in the original text, the Japanese term for "preferable" is found to be an error)" (line 8 in the upper right column to line 7 in the lower left column on page 2).

(7) "For the effective exploitation of the inventions, it is important that the unsaturated carboxylic acid possessing one ethylene bond be used in an amount of at least 0.7 mol per one epoxy equivalent of an epoxy resin. […]. If an unsaturated carboxylic acid possessing an ethylene bond is caused to react in an amount less than the abovementioned amount, for example, in about 0.5 mol per one epoxy equivalent, the reaction product obtained thereby would be very unstable and would gelate when caused to react with polybasic acid anhydride. […]. Furthermore, to make the reaction product obtained by the abovementioned method soluble by aqueous alkali solution, such reaction product shall be caused to react with polybasic acid anhydride at 0.2 to 1 mol, or preferably 0.3 to 0.7 mol per one epoxy equivalent. If the amount of polybasic acid anhydride is less than 0.2 mol, solubilization by an aqueous alkali solution would become difficult, but if it is more than 1.5 mol, the chemical resistance and electric property of the film would be unfavorable." (line 8 in the lower left column to line 9 in the lower right column on page 2).

(8) "The unsaturated compound possessing at least two ethylene bonds to be used in the inventions must react after being exposed to ultraviolet rays, and thus, should contain a terminal ethylene group, and the composition shall be used in an amount sufficient enough to be exposed to light at a desired level. Such compound may include an unsaturated polyol ester, […], pentaerythritol tetra (meth)acrylate, or […].

Examples of preferable unsaturated compounds possessing an ethylene bond are polyethylene glycol diacrylate and trimethylol propane triacrylate. The relative amount of the abovementioned unsaturated compound is generally 0.5 to 50 % by weight, and preferably 1 to 30 % by weight." (line 18 in the lower right column on page 2 to line 15 in the upper right column on page 3).

(9) "The composition obtained in the inventions further comprises a sensitizer. This kind of material is well known in many prior arts. Examples of such material can be other substituted or unsubstituted multinuclear quinine, such as 2-tert-butylanthraquinone, […], 2-methylanthraquinone, or […]>. Other examples of the sensitizer may be carbon tetrachloride, […], benzyl dimenthyl ketal, or […]." (line 14 in the lower right column on page 3 to line 20 in the upper left column on page 4).

(10) "With regard to the photoresist composition in the inventions, 3 to 50 % by weight or preferably 5 to 30 % by weight of the abovementioned epoxy resin, and 0.1 to

10 % by weight or preferably 0.1 to 5 % by weight of the epoxy curing agent may be used so that the resist layer may withstand soldering temperature and be used as a permanent protective coating." (lines 5 to 10 in the upper right column on page 4).

(11) "[…], 2-ethyl-4-methylimidazole, and […] may be used as the epoxy curing agent." (line 10 in the upper right column to line 5 in the lower left column on page 4).

(12) "Working Example 2

A compound composed of about 230 parts by weight of a cresol novolak type epoxy resin (EOCN104) having an epoxy equivalent of about 230, 230 parts by weight of cellosolve acetate (inert organic solvent), about 75 parts by weight of acrylic acid, about 2 parts by weight of hydroquinonemonomethyl ether, and about 2 parts by weight of triethylamine as an esterification catalyst was heated and stirred for reaction at a temperature of about 80°C for 20 hours, and thereby obtaining an epoxy acrylate having an acid value of about 12. Then, about 100 parts by weight of composition obtained by adding about 74 parts by weight of phthalic anhydride to the abovementioned compound and stirring for reaction at about 80°C for two hours, were compounded with 5 parts by weight of pentaerythritol tetraacrylate, 10 parts by weight of multifunctional epoxy resin ("TEPIC"), about 2 parts by weight of 2-methylanthraquinone, about one part by weight of benzyl dimethyl ketal, and 0.5 parts by weight of 2-ethyl-4-methylimidazole thereby obtaining the composition of the inventions. This composition was then applied to one side of the copper clad laminate in a thickness of 0.01 to 0.02 mm by the method of curtain coating, heated and dried at about 60°C for 60 minutes, and then cooled at ambient temperature to a non-adhesion state. Furthermore, a negative film having a predetermined pattern was adhered onto the copper clad laminate, and such copper clad laminate was exposed to and irradiated by an ultraviolet layer with an intensity of 25mw/cm2 at a wavelength of 365nm for 10 seconds, developed by a 1% soda aqueous solution, and then heated and cured by 150°C for 30 minutes to attach resistance to heat. The coating film obtained produced a 200 μm line width pattern, and showed a resistance to soldering heat of 250°C for 60 seconds." (line 7 in the upper right column to line 13 in the lower left column on page 5).

B. Comparison and holdings made with regard to the inventions stated in the Prior Description

"According to the matters stated in the Prior Description as mentioned above, it may be found that the invention related to a photosensitive film composition in which (a) a component which is a reaction product obtained by causing the epoxy resin possessing at least two terminal epoxy groups to react with an unsaturated carboxylic acid possessing one ethylene unsaturated bond at a specific quantitative ratio and then

reacting the same with a polybasic acid anhydride is mixed together with (b) a component which is an unsaturated compound possessing at least two ethylene bonds and (c) a component which is a sensitizer, with the objective of providing a photosensitive coating composition capable of forming a photosensitive coating which excel s in favorable resolution, flexibility, adhesion and chemical resistance and can be developed by alkali water without using a large amount of organic solution.

On the other hand, with regard to Initial Invention 1, the Description states as follows: "Accordingly, the object of this invention is to provide a photosensitive thermosetting resin composition which suffers from none of the drawbacks mentioned above, excels in both developing property and sensitivity, enables an exposed portion thereof to withstand the developing solution, and enjoys a long pot life" (lines 37 to 40 in paragraph 9 on page 5 of the Japanese Examined Patent Publication in question) and "The salient feature of the photosensitive thermosetting resin composition of the present inventions resides in the fact that a "finely powdered" epoxy compound "exhibiting sparing solubility" in the diluent "to be used" is employed as a thermosetting component. The finely powdered (fine particulate) epoxy compound, which is an essential component, is sparingly soluble in the diluent to be used and is intended to be used as dispersed in the finely powdered form, i.e., in the same manner as a filler. The composition, therefore, is hardly corroded by the developing solution nor entails any decline of sensitivity. Further, since the finely powdered epoxy compound in the unexposed portion is washed away by the developing solution during the course of the development, the composition excels in the developing property and can be developed in a shorter time. The subsequent application of heat makes the epoxy compound melt and thermoset by itself or copolymerizes it with the photosensitive prepolymer. As a result, a solder resist pattern for a printed circuit board possessing various highly desirable properties can be produced." (lines 29 to 43 in paragraph 12 on page 6 of the Japanese Examined Patent Publication in question).

Based on the abovementioned statements, Initial Invention 1 and the invention stated in the Prior Description belong to the same technical field in that they are both related to a photosensitive thermosetting resin composition, but do not share the object nor constituent features of the invention. Moreover, as the Prior Description contains no statements on the requirements regarding component (D) of Initial Invention 1, i.e. to use a finely powdered epoxy compound exhibiting sparing solubility in the diluent to be used, it is obvious that the abovementioned two inventions do not correspond to each other in every matter specifying the invention and the two inventions should be considered to be based on different technical ideas.

Yet, if, by any chance, the working examples or other portions in the Prior Description state anything that corresponds to Initial Invention 1, an invention identical to Initial Invention 1 may be found within the scope of such disclosure. Accordingly, the matters stated in the Prior Description shall be examined from this standpoint.

Working Example 2 disclosed in the Prior Description states the following process: to obtain a composition by [a] obtaining epoxy acrylate by causing cresol novolak type epoxy resin in a cellosolve acetate to react with acrylic acid, [b] obtaining a reaction product by causing phthalic anhydride to react with the epoxy acrylate obtained in [a] above, and then mixing such reaction product with [c] pentaerythritol tetraacrylate, [d] multifunctional epoxy resin ("TEPIC"), [e] 2-methylanthraquinone and benzyl dimethyl ketal.

According to this statement, the compound obtained in [a] above corresponds to the complete esterification product (a-1) or partial esterification product (a-2) of epoxy group which can be obtained by the esterification reaction between the novolak type epoxy compound and an unsaturated monocarboxlyic acid as mentioned in (a) of Initial Invention 1, and the reaction product obtained in [b] above corresponds to the components stated in (a-1-1) or (a-2-1) of Initial Invention 1. Consequently, this reaction product corresponds to the photosensitive prepolymer as mentioned in component (A) of Initial Invention 1.

Furthermore, while the 2-methylanthraquinone and benzyl dimethyl ketal as mentioned in [e] above correspond to the photoinitiator of component (B) of Initial Invention 1, the pentaerythritol tetraacrylate as mentioned in [c] above and cellosolve acetate as mentioned in [a] above corresponds to the photopolymerizable vinyl monomer as used as a diluent of component (C) of Initial Invention 1 as well.

The statements in said Working Example 2 that the compound mentioned in [d] above shall further be mixed and then the composition prepared shall be exposed to ultraviolet rays, developed and thermally cured, suggest that the said composition corresponds to the photosensitive thermosetting resin composition described in Initial Invention 1.

Accordingly, the comparison between the photosensitive thermosetting resin composition stated in Working Example 2 disclosed in the Prior Description (hereinafter referred to as the "Cited Invention 1") and Initial Invention 1 leads to the finding that the two inventions correspond to each other in that they are both "a photosensitive thermosetting resin composition comprising (A) a photosensitive preploymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof which falls

under (a-1-1) or (a-2-1), (B) a photoinitiator, (C) a photopolymerizable vinyl monomer and/or an organic solvent as a diluent, and (D) an epoxy compound possessing at least two epoxy groups in the molecular unit thereof," but differ at least in the following points.

Difference:

With regard to the epoxy compound for component (D), while Initial Invention 1 states "a finely powdered epoxy compound exhibiting sparing solubility in the abovementioned diluent to be used, which is at least one epoxy compound in a solid or semi-solid state selected from a group consisting of digylcidyl phthalate resin, heterocyclic epoxy resin, biphenol type epoxy resin, and tetraglycidylxy lenoylethane resin," a "multifunctional epoxy resin ("TEPIC")" is used in the Cited Invention 1 with no limitations on such multifunctional epoxy resin to exhibit sparing solubility in the diluent to be used or to be fine particulates.

Thus, the abovementioned difference shall be examined.

The "multifunctional epoxy resin ("TEPIC")" as used in the Cited Invention 1 can be found to be equivalent to the "products of Nissan Chemical Industry, Ltd., marketed under the registered trademark designation of 'TEPIC'" as stated in holdings (4) made with regard to the Prior Description. Then, there is no choice but to consider such "multifunctional epoxy resin ("TEPIC")" to correspond to the "'TEPIC' manufactured by Nissan Chemical Industries, Ltd." stated as the "heterocyclic epoxy resin" in the Description (see line 23 of paragraph 10 on page 10 of the Japanese Examined Patent Publication No. 7-17737 (hereinafter simply referred to as the "Japanese Examined Patent Publication")).

Moreover, the "pentaerythritol tetraacrylate," which is mixed simultaneously with the "multifunctional epoxy resin ("TEPIC")" in the Cited Invention 1, has actually been mixed in as a diluent in combination with the "fine particulate 'TEPIC'" in working Example 5, which prescribes the specific embodiment of Initial Invention 1. Based on this fact, it is apparent that the "multifunctional epoxy resin ("TEPIC")" as used in the Cited Invention 1 satisfies the requirement of being sparingly soluble in the diluent to be used.

Finally, regarding the use of a fine particulate epoxy compound for component (D), the following statement is found in the Description: "The epoxy compound (D) is prepared in a finely powdered form by the conventional procedure which comprises simply pulverizing the abovementioned epoxy compound and/or further crushing and dispersing the epoxy compound in combination with other components of the composition, such as the abovementioned photosensitive prepolymer (A), in a kneader

such as, for example, a roll mill. The epoxy compound can be used either singly or in the form of a mixture consisting of two or more types. […]. Suitably, the particle size of the finely powdered epoxy compound is not more than 50 μm, preferably not more than 30 μm. If the particle size exceeds 50 μm, the composition while being applied by the screen printing mentioned above displays a poor ability to permeate the screen and the produced coating tends to form pinholes in the surface thereof and, even when the application is effected by some other method, the applied coating acquires a coarse surface." (see lines 29 to 44 in paragraph 10 on page 10 of the Japanese Examined Patent Publication).

Based on this statement, Initial Invention 1 can be found to have not only contained the aspect of mixing component (D) prepared in a finely powdered form by pre-pulverization with other components of the composition, but also the aspect of making component (D) that has not been pulverized satisfy the requirement of being "in a finely powdered form" by appropriate methods, such as by kneading, at the stage after component (D) has been preliminary mixed with other components of the composition. In fact, in the working example disclosed in the Description, component (D) before being pre-mixed with other components is not only "in a finely powdered form" but also in a "graniform," and a photosensitive thermosetting resin composition having a desired particle size is prepared by the kneading treatments made at the stage after the preliminary mixture mentioned above.

On the other hand, the Prior Description states that "[…] were mixed with […], and thereby obtaining the composition of this invention. This composition was then applied to one side of the copper clad laminate in a thickness of 0.01 to 0.02 mm by the method of curtain coating." Although this statement lacks the specific operations to be made after the preliminary mixture, it may be found that a film of a photosensitive thermosetting resin composition prior to curing has been obtained at a thickness within the range of 0.01 to 0.02 mm, i.e. 10 to 20 μm, in the prior invention.

Then, it is appropriate to construe that the particle size of the granular component included in the photosensitive thermosetting resin composition which forms such film would be smaller than the particle size of component (D) as well as said thickness, and therefore, component (D) of Cited Invention 1 must be "in a finely powdered form."

Accordingly, Initial Invention 1 is identical to the Cited Invention 1.

Next, Initial Invention 2 shall be examined.

Initial Invention 2 is a method of forming a solder resist pattern on a printed circuit board which is characterized by the processes of first applying on the surface of a printed circuit board a photosensitive thermosetting resin composition mentioned in

Initial Invention 1, which contains a curing agent for epoxy resin as needed, exposing the applied layer of said composition selectively to an actinic ray through a photomask having a given pattern, developing the unexposed portion of the applied layer with a developing solution thereby giving rise to a resist pattern, and thereafter thermosetting said finely powdered epoxy compound by application of heat.

As mentioned above, Working Example 2 disclosed in the Prior Description contains, in addition to the statement of a photosensitive thermosetting resin composition identical to that of Initial Invention 1, the statements of the processes of addition of 2-ethyl-4-methylimidazole as a curing agent for epoxy resin, application of the relevant photosensitive thermosetting resin composition to one side of the copper clad laminate, adhesion of a negative film in a given pattern, irradiation by and exposure to ultraviolet rays, development by soda aqueous solution, heating and curing, and reproducing of patterns. These processes can be considered to be the method of forming a solder resist pattern on a printed circuit board as prescribed in Initial Invention 2 (hereinafter such processes shall be referred to as the "Cited Invention 2").

Accordingly, Initial Invention 2 is identical to Cited Invention 2 for the same reason as that for Initial Invention 1."

C. Examination of the allegation made by the plaintiff in this case regarding the request for Corrections (which was an allegation that the Corrections have not substantially restricted the scope of claim as they have not excluded the same compounds as "TEPIC" which are procurable from other source)

"As mentioned above […], Initial Inventions 1 and 2 and the inventions stated in the Prior Description are originally based on different technical ideas, and thus, the Cited Inventions should be understood based on the statements made in Working Example 2 disclosed in the Prior Description, and "the inventions stated in the Prior Description" should not be identified apart from the statement in said Working Example.

Although the Prior Description exemplifies "the products of Nihon Ciba-Geigy K.K. marketed under the registered trademark designation of 'YL-931, 604,' those of Nissan Chemical Industries, Ltd., marketed under the registered trademark designation of 'TEPIC,' and the products of Celanese Corporation marketed under the registered trademark designation of 'EPI-REZ SU8'" as the "specific multifunctional epoxy resin," which is the possible type of epoxy resin for mixture, no statements are made on "ARALDITE PT810" nor are there any statements or suggestions on the use of epoxy compound sparingly soluble in the diluent as said "specific multifunctional epoxy resin."

Moreover, it cannot be considered that the mere fact that the relevant compositions share the same chemical formula leads to the expectation of equivalent results at all

times for several properties including, the purity, form of a particle, and solubility in various solvents, regardless of the manufacture and/or distribution source.

Accordingly, as long as there is no lead on the use of "ARALDITE PT810" in the Prior Description, it cannot be considered that a composition prepared by using "ARALDITE PT810" as a substitute for "TEPIC" is stated.

D. Purpose of the corrections, satisfaction of the requirement of the corrections to be made within the original scope of claims, and existence of enlargement and/or alteration

"As examined above […], Corrections (1) and (2) have been made to exclude only the compositions that were disclosed in Working Example 2 stated in the description attached to the prior application (Japanese Patent Application No. SHO 62-114079 (see Japanese Patent Publication No. SHO 63-278052)) which was cited in the trial for invalidation of the patent prior to remand, and that are identical to the inventions stated in Claim 1 and Claim 22 included in the scope of claims prior to the Corrections, from the photosensitive thermosetting resin composition stated in said Claim 1 and Claim 22 (claims revised by such Corrections are generally referred to as a "disclaimer"). Thus, such Corrections can exceptionally be treated as being made within the scope of matters stated in the Description, and are intended /to restrict the scope of claims.

Correction (3) clarifies that the optional and additional or selective matters stated in Claim 22 included in the scope of claims prior to the Corrections are essential matters to specify the inventions, and thus, is intended to clarify ambiguous statements.

Correction (4) deletes the elements of alternative statement made in Claim 19 included in the scope of claims prior to the Corrections, and thus is intended to restrict the scope of claims.

Correction (5) deletes a claim in response to the grounds for invalidation given in another trial for invalidation of a patent which is pending (Invalidation Case No. 2005-80200), and thus is intended to restrict the scope of claims.

Correction (6) coordinates the statements for the scope of claims in accordance with Correction (5), and thus is intended to clarify ambiguous statements.

Any of the Corrections (1) to (6) mentioned above can be found to be corrections made within the scope of matters stated in the description and do not substantially enlarge or alter the scope of claims."

(2) Determinations made in regard to the Present Inventions

A. Regarding Ground 1 (which is an allegation that the Inventions are identical to the inventions stated in the Prior Description)

"As pointed out above […], the inventions in whole stated in the Prior Description and Initial Inventions 1 and 2 are based on different technical ideas, and this

relationship can naturally be found between Present Invention 1 and Present Invention 2. Nevertheless, as there are no statements or suggestions on the constituent features of Present Inventions 1 and 2 in the Prior Description, no Cited Inventions to be compared with Present Inventions 1 and 2 can be identified regardless of such features.

As mentioned above […], the Correction has resulted in the exclusion of inventions stated in Working Example 2 disclosed in the Prior Description (Cited Inventions 1 and 2) which were overlapping with Initial Inventions 1 and 2 by chance, from such Initial Inventions, and thus, the provision of Article 29-2 of the Patent Act (note of the judgment: see pages 41 and 65 below for the provision to be applied) can no longer be applied to Present Inventions 1 and 2, which are inventions after the Corrections have been made."

B. Regarding Ground 2 (which is an allegation that the Inventions could be easily invented by a person skilled in the art based on the Invention Based on Exhibit Ko No. 3)

(A) Matters stated in Exhibit Ko No. 3

"The following matters are stated in Exhibit Ko No. 3 (Japanese Patent Publication No. SHO 61-243869), which is a publication distributed within Japan prior to the filing of the application in question.

(1) "1. A photosetting liquid resist ink composition comprising (A) a resin curable with an activated energy ray, obtained by the reaction of a saturated or unsaturated polybasic acid anhydride with a reaction product obtained from a reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid; (B) photopolymerization initiator; and (C) a diluent, which is capable of being developed by dilute alkali solution." (scope of claims)

(2) "The present invention relates to a novel and useful resist ink composition, and more particularly relates to a liquid resist ink composition comprising a specific resin curable with an activated energy ray having a novolak type resin skeleton (note: the Kanji character for the term "skeleton" has been found to be an error), a photoinitiator, and diluent as its essential components, which excels in photosetting properties, heat resistance, solvent resistance and acid resistance, etc., is particularly suitable for the production of consumer-use printed circuit boards and industrial use printed circuit board, and is capable of being developed by dilute alkaline aqueous solution." (line 13 in the lower right column on page 1 to line 1 in the upper left column on page 2).

(3) "The resin curable with an activated energy ray (A) as mentioned above can be obtained by causing the reaction product of a novolak type epoxy compound and an unsaturated monocarboxlyic acid as mentioned below to react with diacid anhydride,

such as phthalic anhydride, or with aromatic polycarboxylic anhydride, such as trimellitic anhydride and pyromellitic anhydride." (lines 13 to 19 in the lower left column on page 2).

(4) "Typical examples of novolak type epoxy compounds include phenol novolak type epoxy resin and cresol novolak type epoxy resin, and a compound which can be obtained by causing each novolak resin to react with epichlorohydrin by a conventional procedure can be used." (line 17 in the lower right column on page 2 to line 2 in the upper left column on page 3).

(5) "Typical examples of unsaturated monocarboxylic acids include acrylic acid, methacrylic acid, crotonic acid, and cinnamic acid, but acrylic acid is particularly preferable." (lines 3 to 6 in the upper left column on page 3).

(6) "Typical examples for the acidic anhydride as mentioned above include diacid anhydride, such as maleic anhydride, succinic anhydride, and […], and a polycarboxylic anhydride derivative, such as […] can be used." (line 7 in the upper left column to line 2 in the upper right column on page 3).

(7) "As for the abovementioned photopolymerization initiator (B), typical examples thereof include ketals, such as bezoin, […], acetophenone dimethyl ketal, and benzyl dimethyl ketal, or benzophenones, such as benzophenone, or xanthones. Such photopolymerization initiator (B) can be used in combination with one type or two or more types of well-known conventional photopolymerization accelerators of benzoic acid systems and tertiary amine systems." (line 3 in the upper right column to line 5 in the lower left column on page 3).

(8) "As the diluent (C) mentioned above, a photopolymerizable monomer and/or an organic solvent can be used. Typical photopolymerizable monomers include water-soluble monomers, such as 2-hydroxyethyl acrylate, […] (C-1); and water-insoluble monomers, such as diethylene glycol diacrylate, […], or mono-, di-, tri- or polyesters of polybasic acids with hydroxylalkyl(metha)acrylate (C-2).

Examples of organic solvents (C-3) include ketones, such as methyl ethyl ketone, cyclohexanone, and acetic esters, such as […], cellosolve acetate, butyl cellosolve acetate, carbitol acetate and butyl carbital acetate." (line 10 in the lower left column on page 3 to line 15 in the upper left column on page 4).

(9) "The photosetting liquid resist ink composition of the present invention obtained as described above may further incorporate therein, as occasion demands, a well-known conventional filler, such as barium sulfate, silicon oxide, and […], or a well-known conventional polymerization inhibitor, such as hydroquinone, hydroquinone monomethyl ether, pyrogallo, tertiary butyl ether, and phenothiazine, may be added as

appropriate. Further, the combined use of a small amount of epoxy compound containing two or more epoxy groups in the molecular unit thereof (e.g. bisphenol A type epoxy resin, bisphenol F type epoxy resin, bisphenol S type epoxy resin, phenol novolak type epoxy resin, cresol novolak type epoxy resin, N-glycidl type epoxy resin, or alicyclic epoxy resin) and epoxy curing agents (e.g. amine compounds, imidazole compounds, carboxylic acids, phenols, quarternary ammonium salt, or methylol group-containing compound) and application of heat to the layer at a later time lead to the improvement of various properties of the composition of the inventions, such as heat resistance, solvent resistance, acid resistance, plating resistance, adhesion, electric properties, and solidity, through the promotion of polymerization of the photosetting component and facilitation of copolymerization" (line 2 in the lower left column to line 7 in the lower right column on page 4).

(10) "Working Example 4

On a product of the reaction of one equivalent weight of cresol type epoxy resin having an epoxy equivalent weight of 217 and possessing an average of seven phenol ring residues in the molecular unit thereof on average and an epoxy group with 1.05 equivalent weight of acrylic acid, 0.95 equivalent of tetra hydro phthalic anhydride was caused to react by the conventional method. The product of the reaction was diluted with cellosolve acetate to an involatile content of 70%. The diluted product will be referred to as "resin (A-3)."

Component (a)	
Resin (A-3)	50.0 parts
Trimethylol propane triacrylate	4.0 parts
Pentaerythritol triacrylate	4.0 parts
2-methyl anthraquinone	3.0 parts
2-dimethylaminoethyl benzoate	2.0 parts
2-phenyl-4-benzyl-5-hydroxymethylimidazole	0.5 part
"AC-300"	1.0 part
Phthalocyanine green	0.5 part
Calcium carbonate	10.0 parts
Total of component (a)	75.0 parts
Component (b)	
"Epiclon EXA-1514" (Bisphenol S type epoxy resin manufactured by Dainippon Ink and Chemicals, Inc.)	10.0 parts
Trimethylolpropane triglycidl ether	4.0 parts
Cellosolve acetate	6.0 parts

Calcium carbonate 5.0 parts

Total of component (b) 25.0 parts

An ink was prepared by kneading the abovementioned component (a) and component (b) separately by a test roll (roll mill).

Then component (a) and component (b) were mixed. The resulting mixture was applied by the screen printing method on the entire surface of a copper clad laminate and of a printed circuit board having a stated pattern formed thereon by etching in advance, and then dried in a hot air circulation type drier oven at 70°C for 30 minutes to produce test pieces. The test piece obtained by applying the relevant ink on the copper clad laminate and the test piece obtained by applying the relevant ink on the printed circuit board having a stated pattern formed by etching in advance shall be referred to as "4-E" and "4-S," respectively." (line 3 in the upper left column to line 3 in the lower left column on page 6).

(11) "Test Examples 1 to 3 (photosetting property, developing property, and dryness by finger touch)

On each of the test pieces, 1-E through 7-E, and comparative test pieces, 1-E through 4-E, that were produced in the abovementioned Working Examples 1 through 8 and the Comparative Examples 1 through 4, respectively, a resist pattern film adhered onto a glass was placed through the medium of a spacer 0.5 mm in thickness, so as to be kept untouched, and was irradiated for a varying period of time with the light from a parallel exposure device with a luminous intensity of 10 mw/cm2 ([...], manufactured by ORC Manufacturing Co., Ltd.) to test the photosetting properties. The resist pattern film, after being cured by the exposure, was developed using an aqueous 1% sodium carbonate solution as a developing solution to test for the developing property. The results are collectively shown in Table 1.

.[...]

The test pieces produced in Working Examples 4 through 7 and Comparative Examples 3 and 4 were tested for dryness by finger touch. On each of these test pieces, a resist film was directly adhered, then irradiated for a varying period of time with the light, and tested for photosetting properties and developing property. The results are also shown in Table 1." (line 7 in the upper right column to line 6 in the lower left column on page 8).

(B) Comparison and determinations

"As the abovementioned component (A) stated in Exhibit Ko No. 3 is to be cured by light together with the abovementioned components (B) and (C), it is obvious that the term "curable with an activated energy ray" as mentioned in Claim 1 included in the

scope of claims stated in Exhibit Ko No. 3 has the same meaning as "photosetting."

At the same time, a photopolymerizable monomer and/or organic solvent is used as component (C) mentioned in Claim 1 included in said scope of claims, and the components exemplified as photopolymerizable monomers are those derived from (meth)acrylic acid possessing a vinyl bond in the molecular unit thereof.

Moreover, among the components to be additionally mixed as needed, "bisphenol A type epoxy resin, bisphenol F type epoxy resin, bisphenol S type epoxy resin, phenol novolak type epoxy resin, cresol novolak type epoxy resin, N-glycidl type epoxy resin, or alicyclic epoxy resin" were exemplified as those falling under the epoxy compound containing two or more epoxy groups in the molecular unit thereof.

Then, Exhibit Ko No. 3 may be found to contain the following statement: "A photosensitive thermosetting resin composition comprising

(A') photosetting resin obtained by causing the reaction product of a novolak type epoxy compound and an unsaturated monocarboxylic acid to react with a saturated or unsaturated polybasic acid anhydride;

(B') a photopolymerization initiator;

(C') a photopolymerizable vinyl monomer and/or an organic solvent as a diluent; and

(D') an epoxy compound containing two or more epoxy groups in the molecular unit thereof, such as bisphenol A type epoxy resin, bisphenol F type epoxy resin, bisphenol S type epoxy resin, phenol novolak type epoxy resin, cresol novolak type epoxy resin, N-glycidl type epoxy resin, or alicyclic epoxy resin." ([…], Invention Based on Exhibit Ko No. 3, […]).

Based on this finding, the "reaction product of a novolak type epoxy compound and an unsaturated carboxylic acid," which is an intermediate of the abovementioned component (A'), corresponds to the complete esterification product (a-1) or partial esterification product (a-2) of epoxy group which can be obtained by the esterification reaction between the novolak type epoxy compound and an unsaturated monocarboxlyic acid as mentioned in (a) of Present Invention 1, and the final reaction product of said component (A'), which would be obtained by further causing the abovementioned reaction product to react with a saturated or unsaturated polybasic acid anhydride, would correspond to the prepolymers stated in (a-1-1) or (a-2-1) of Present Invention 1, and eventually to component (A) of Present Invention 1, a photosensitive prepolymer. Moreover, it is obvious that the abovementioned components (B') and (C') correspond to components (B) and (C) of Present Invention 1, respectively.

Accordingly, if the Invention Based on Exhibit Ko No. 3 and Present Invention 1

are compared, it may be found that the two inventions correspond to each other in that they are both "a photosensitive thermosetting resin composition comprising (A) a photosensitive preploymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof which falls under (a-1-1) or (a-2-1), (B) a photoinitiator, (C) a photopolymerizable vinyl monomer and/or an organic solvent as a diluent; and (D) an epoxy compound possessing at least two epoxy groups in the molecular unit thereof," but differ at least in the following points.

Difference:

With regard to the epoxy compound for component (D), while Present Invention 1 states "a finely powdered epoxy compound exhibiting sparing solubility in the abovementioned diluent to be used, which is at least one epoxy compound in a solid or semi-solid state selected from a group consisting of digylcidyl phthalate resin, heterocyclic epoxy resin, biphenol type epoxy resin, and tetraglycidylxy lenoylethane resin," in Invention Based on Exhibit Ko No. 3, the relevant epoxy compound is only selected from among the "epoxy compound containing two or more epoxy groups in the molecular unit thereof, such as bisphenol A type epoxy resin, bisphenol F type epoxy resin, bisphenol S type epoxy resin, phenol novolak type epoxy resin, cresol novolak type epoxy resin, N-glycidl type epoxy resin, or alicyclic epoxy resin," and further, no specification has been made to use an epoxy compound "in a finely powdered form exhibiting sparing solubility in the diluent to be used" as the relevant epoxy compound.

As mentioned in […] above, while it is stated that "the salient feature… resides in the fact that a "finely powdered" epoxy compound "exhibiting sparing solubility" in the diluent "to be used" is employed in Present Invention 1, Exhibit Ko No.3 contains no suggestions on the employment of an epoxy compound having such specific properties, nor can the employment of such specific epoxy compound be found to be a common general technical knowledge.

Furthermore, Present Invention 1 achieves advantages of excelling in developing property and sensitivity and having a resistance to developing solutions in the exposure portions, by the mixture of component (D) having such specific properties.

Therefore, Present Invention 1 would not have been easily conceived of by a person skilled in the art based on the Invention Based on Exhibit Ko No. 3.

Next, Present Invention 2 shall be examined.

Present Invention 2 is a method of forming a solder resist pattern on a printed circuit board which is characterized by the processes of first applying, on the surface of a printed circuit board, a photosensitive thermosetting resin composition mentioned in Present Invention 1, which further contains a curing agent for epoxy resin, exposing the

applied layer of said composition selectively to an actinic ray through a photomask having a given pattern, developing the unexposed portion of the applied layer with a developing solution thereby giving rise to a resist pattern, and thereafter thermosetting said finely powdered epoxy compound by application of heat.

Therefore, Present Invention 2 would also not have been easily conceived of by a person skilled in the art based on the Invention Based on Exhibit Ko No.3 for the same reason as that for Present Invention 1.

Consequently, the provision of Article 29, paragraph (2) of the Patent Act (note of the judgment: see page 69 below regarding the provision to be applied) shall not be applied to Present Inventions 1 and 2.

C. Regarding Ground 3 (which is an allegation that the Inventions are incomplete)

"Component (A) under Present Inventions 1 and 2 are first defined as "a photosensitive prepolymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof, which is one type or two or more types of prepolymers selected from one or more of the groups prescribed in (a), (b), or (c) below," and then (a-1-1), (a-1-2), (a-2-1), and (a-2-2), and (b-1-1), (b-1-2), (b-2-1), and (b-2-2), and (c-1) and (c-2) are listed as those falling under said group (a), (b) or (c), respectively.

Under this statement, the abovementioned group (a) refers to a compound derived from a partial or complete esterification product of epoxy group produced by the esterification reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid, while group (b) refers to a partial or complete etherification product of the epoxy group produced by the etherification reaction of a novolak type epoxy compound and an unsaturated phenol compound, or a compound derived from such partial or complete etherification product and group (c) refers to diallyl (iso)phthalate prepolymers. Thus, it is found that a significant chemical structural element is shared by the alternatives of each group (a) through (c). Furthermore, as a result of the existence of such common chemical structure, it may be expected that the alternatives among each group (a) through (c) would behave in the same way even if they were substituted for each other.

In relation to this finding, the statements in the Description contain the compositions using the following components for the respective working examples, as the specific embodiment of component (A) of Present Inventions 1 and 2: (i) (a-1-1) and (c-1) for Working Example 3; (ii) (a-2-2) for Working Example 4; (iii) (a-1-1) and (b-1-1) for Working Example 5; and (iv) (c-1) for Working Example 6.

Then, the Description should be deemed to have disclosed a photosensitive thermosetting resin composition actually mixing the typical substances of each group

(a) through (c).

At the same time, component (D) of Present Inventions 1 and 2 is defined as "a finely powdered epoxy compound possessing at least two epoxy groups in the molecular unit thereof and exhibiting sparing solubility in the abovementioned diluent to be used, which is at least one epoxy compound in a solid or semi-solid state selected from a group consisting of digylcidyl phthalate resin, heterocyclic epoxy resin, bixylenol type resin, biphenol type epoxy resin, and tetraglycidylxy lenoylethane resin."

The "digylcidyl phthalate resin, heterocyclic epoxy resin, bixylenol type resin, biphenol type epoxy resin, and tetraglycidylxy lenoylethane resin" as listed above are "finely powdered epoxy compounds possessing at least two epoxy groups in the molecular unit thereof and exhibiting sparing solubility in the abovementioned diluent to be used, which assume a solid or semi-solid state" that belong to a class of chemicals recognized as a group and the alternatives within such group can be expected to behave in the same way.

In relation to this finding, the statements in the Description contain the compositions using the following components for the respective working examples, as the specific embodiment of component (D) of Present Inventions 1 and 2: (i) bixylenol type resin for Working Example 3; (ii) heterocyclic epoxy resin for Working Examples 4 and 5; and (iii) biphenol type epoxy resin for Working Example 6. Therefore, the Description should be deemed to have disclosed the typical compounds of "finely powdered epoxy compounds possessing at least two epoxy groups in the molecular unit thereof and exhibiting sparing solubility in the abovementioned diluent to be used, which assume a solid or semi-solid state."

Accordingly, the Description can be deemed to have disclosed photosensitive thermosetting resin compositions actually containing the typical substances for both component (A) and component (D), and other alternatives for the two components which have not been disclosed can be expected to behave in the same way, and therefore it cannot be concluded that Present Inventions 1 and 2 have not gone beyond the stage of idea for such other alternatives.

Consequently, Present Inventions 1 and 2 have fulfilled the requirements for patentability as provided for in the main clause of Article 29, paragraph (1) of the Patent Act (note of the judgment: see page 71 below for the provision to be applied).

D. Regarding Ground (4) (which is an allegation that the statements in the Description are insufficient)

"It has been mentioned […] above that the Description has stated examples using the typical substances for component (A) and component (D) of Present Inventions 1 and

2 from among the group of compounds which may be expected to behave in the same way.

Furthermore, the detailed explanation of the inventions included in the Description contains statements of the starting material and manufacturing method in the case of preparation of a compound falling under the relevant alternative, instructions on the availability of commercial goods, if any, and reference of specific examples for manufacturing the typical substances (a-1-1), (a-2-2), and (b-1-1).

Following them in the detailed explanation of the inventions are statements of preferred commercial products that satisfy the condition of "exhibiting sparing solubility in the diluent to be used and assuming a solid or semi-solid state at ambient temperature" regarding component (D), examples of compounds eligible to be used as the diluent of component (C), which is to be used simultaneously with component (D) above, and further, the specific combinations of component (C) and component (D) as Working Examples 3 through 6.

The compounds exemplified as component (D) are all commercial products which can be easily obtained. Once the compound to be used as component (D) has been decided, the compound in which such component (D) would not dissolve can be decided experimentally from among the compounds exemplified as component (C) in the detailed explanation of the inventions, and this process cannot be considered as compelling a person skilled in the art to conduct trial and error beyond a reasonably-expected extent.

Indeed, (a-1) and (a-2) can no longer be included in the alternatives of component (A) of Present Inventions 1 and 2, nor is bisphenol S type epoxy resin included in those of component (D). Yet, the matters which are essential for the constitutions of Present Inventions 1 and 2 can be clearly understood from the statements made in Claim 1 and Claim 21 included in the scope of claims for the Patent, and therefore, the mere fact that an example of preparing a composition only containing the abovementioned (a-1) and/or (a-2) as the component of a photosensitive prepolymer remains to be stated as an "working example" cannot lead to the conclusion that a person skilled in the art is prevented from easily working the inventions pertaining to Present Inventions 1 and 2. At the same time, as the composition stated in "Working Example 6" disclosed in the Description contains a biphenol type epoxy resin, which is one of the alternatives for component (D) of Present Inventions 1 and 2, said "Working Example 6" remains to fall under the specific embodiment of Present Inventions 1 and 2.

Accordingly, the detailed description of the inventions in the Description has stated the object, constitution and effect of the relevant inventions to a level sufficient enough

for a person skilled in the art to easily work such inventions, and the scope of claims stated in the Description has stated matters which are essential for the constitution of the relevant inventions from among the matters stated in the detailed explanation of the inventions.

Consequently, the Description satisfies the requirements provided for in Article 36, paragraphs (3) and (4) prior to the revision by the Act for Partial Revision of the Patent Act and Other Relevant Laws (Act No. 27 of 1987; hereinafter referred to as the "1987 Act") for which it was provided that the provisions then in force shall remain applicable pursuant to the provision of Article 3 of the Supplementary Provisions of the 1987 Act (note of this judgment: see page 72 below for the provisions applied)."

E. Regarding the allegation of violation of the requirements for independent patentability

"Determinations on the allegations concerning the provision of Article 29-2 of the Patent Act have been made […] as above. Regarding the allegations that the statements in the description were insufficient, statements of trademarks or name of the goods in the scope of claims should indeed be avoided to the extent possible. Yet, in making the Corrections, trademarks had been used under the necessity to avoid the relevant invention from becoming identical to the Cited Inventions, and thus, the Corrections cannot be considered to be the cause for the matters essential to the constitution of the relevant invention becoming obscure.

Accordingly, the Description satisfies the requirements provided for in Article 36, paragraph (4) of the Patent Act prior to the revision by the Act for Partial Revision of the Patent Act and Other Relevant Laws (Act No. 27 of 1987; hereinafter referred to as the "1987 Act") for which it was provided that the provisions then in force shall remain applicable pursuant to the provision of Article 3 of the Supplementary Provisions of the 1987 Act."

No.3 Allegations made by the plaintiff regarding the grounds for rescission of the JPO Decision

1. Ground for rescission No. 1 (errors in the determinations on the appropriateness of the Corrections)

(1) The JPO Decision found that the Present Inventions and the inventions stated in Working Example 2 in the Prior Description (hereinafter referred to as the "Cited Inventions") are based on different technical ideas, and determined that corrections (1) and (2) included in the Corrections (hereinafter such corrections shall be referred to as "Correction 1" and "Correction 2" in accordance with the number attached, or collectively referred to as the "Corrections") were made to provide a "disclaimer" by

excluding only the constitutions corresponding to the Cited Inventions from the inventions prior to the Corrections, which could be exceptionally treated as being made within the scope of matters stated in the Description and could be deemed to have been made for the restriction of the scope of claims. However, the abovementioned determination made by the JPO Decision is erroneous.

(2) The Corrections are indeed intended to exclude the Cited Inventions by providing a "disclaimer." Yet, the statements in the Examination Guidelines for Patent and Utility Model (hereinafter simply referred as the "Examination Guidelines") concerning the "disclaimer" are in violation of the provisions of the Patent Act, and thus, such Corrections should not be allowed in the first place.

Even if corrections to provide a "disclaimer" are to be exceptionally allowed, as long as they are exceptions, the allowance of such corrections should be made in a strict manner. According to the Examination Guidelines, the relevant inventions are required to be "remarkably different from the prior art in terms of the technical idea" and to "inherently involve an inventive step" for a correction to provide a "disclaimer" be allowed.

The JPO Decision has however not only failed to find that Cited Inventions and the inventions in question are "remarkably different in terms of the technical idea" but also to find that the inventions in question "inherently involve an inventive step." Thus, the Corrections have not satisfied the requirements which are necessary to have the correction to provide a "disclaimer" be exceptionally allowed, and do not fall under the case to be "treated as being made within the scope of matters stated in the original descriptions, etc."

(3) The facts that the combination including "TEPIC" as component (D) remains in the statement of the scope of claims after the Corrections, and that the resin to which a registered trademark "TEPIC" is applied includes several types and does not mean a single resin leads to the conclusion that it is impossible to technically identify the contents of the "disclaimer" by the statement of the registered trademark "TEPIC." As suggested by the fact that the use of trademarks is prohibited in principle in the form based on the Ordinance for Enforcement of the Patent Act or in the Examination Guidelines, the inclusion of the registered trademark in the contents of the Corrections would not technically clarify the difference between the parts which have been excluded from the initial claims by a "disclaimer" and the parts which have not been excluded and remain in the inventions in question, and thus the Corrections are not found to have been made for restriction of the scope of claims.

Moreover, the Corrections only excluded the specific combinations of components

(A) to (D) of Initial Invention 1 and components (A) to (E) of Initial Invention 2, and thus the statements in the scope of claims after the correction are substantially the same as those prior to the correction, and the Corrections do not substantially "restrict" the scope of claims.

(4) As described above, the Corrections have not been made "within the scope of matters stated in the description or drawings" nor for "the restriction of the scope of claims," and thus the determinations made in the JPO Decision are erroneous.

2. Ground for rescission No. 2 (errors in the determination on the identity of the Present Inventions and Cited Inventions)

(1) The JPO Decision found that the Present Inventions and Cited Inventions were different in terms of the technical idea and that there were no statements or suggestions on the constituent features of the Present Inventions in the Prior Decision and determined that the provision of Article 29-2 of the Patent Act may not be applied to the Present Inventions on the basis that the components which were accidentally identical to those of the Cited Inventions were excluded from the Present Inventions by the Corrections. However, the abovementioned determinations made in the JPO Decision are erroneous.

(2) As mentioned in 1(3) above, the Corrections excluded only the specific combinations of the components from the inventions prior to the Corrections, by providing a "disclaimer," and therefore, the Present Inventions and the Cited Inventions belong to the same technical field, have the same use, operation and effect, etc. and are identical in terms of the technical idea. The Present Inventions are inventions comprising the combination of components (A) to (D) and components (A) to (E), except for those excluded by the Corrections, and further components (A) to (C) and (E) are well-known components, and component (D) includes multifunctional epoxy resins which share the same chemical structure with "TEPIC" but have different trademarks (e.g. "ARALDITE PT810"). Therefore, the Present Inventions should be considered as remaining substantially identical to the Cited Inventions, and thus the determinations made in the JPO Decision are erroneous.

(3) Counterarguments to the defendant's allegations

A. The defendant alleges that the feature of the Present Inventions resides in the fact that "it is a photosensitive thermosetting resin composition using a finely powdered epoxy resin exhibiting sparing solubility in the diluent," which gives rise to a specific effect and that such inventions have not been disclosed in the Prior Description.

However, the conditions that the finely powdered epoxy compound is sparingly soluble in the diluent to be used and is intended to be used as dispersed in the finely

powdered form are both technically clear. Such conditions should therefore be deemed to have been stated in the Prior Description or at least regarded as matters obvious from such statements.

Moreover, the fact that the "multifunctional epoxy resin ("TEPIC")" stated in the Prior Description is in a finely powdered form and is sparingly soluble in the diluent is sufficiently obvious for a person skilled in the art to immediately confirm, as mentioned in parts 1 to 3 in Exhibit Ko No. 4.

B. The defendant alleges that even if the "multifunctional epoxy resin ("TEPIC")," which is a thermosetting component stated in Working Example 2 in the Prior Description, is found by chance to be sparingly soluble in a diluent *ex post facto*, this does not lead to the conclusion that the thermosetting component of the inventions stated in the Prior Description is sparingly soluble.

However, the Cited Inventions have especially selected the combination of "multifunctional epoxy resin ("TEPIC")" as the epoxy resin and "pentaerythritoltetraacrylate" as a diluent in which such epoxy resin does not dissolve, from among the numerous combinations of epoxy resin and diluent, with the aim to work the inventions stated in the scope of claims in the Prior Description in the best mode, and thus the defendant's allegation is unreasonable.

3. Ground for rescission No. 3 (errors in the determinations on the difference between Present Invention 1 and Invention Based on Exhibit Ko No. 3)

(1) The JPO Decision determined that Present Invention 1 could not have been easily conceived of by a person skilled in the art based on the Invention Based on Exhibit Ko No.3 for the following reasons: Regarding Present Invention 1, it is stated that "the salient feature… resides in the fact that the "finely powdered" epoxy compound "exhibiting sparing solubility" in the diluent "to be used" is employed as a thermosetting component." Nevertheless, Exhibit Ko No. 3 does not suggest the employment of an epoxy compound having such specific characteristics, nor is the employment of such specific epoxy resin found to be a common general technical knowledge. However, the abovementioned determination made in the JPO Decision is erroneous.

(2) In Working Example 4 disclosed in Exhibit Ko No.3, "EPICLON EXA-1514" is stated as one of the alternatives for bisphenol S type epoxy resin. At the same time, in Exhibit Ko No.3, N-glycidl type epoxy resin is listed in the same category as bisphenol type epoxy resin. This N-glycidl type epoxy resin and heterocyclic epoxy resin listed as one of the alternatives for component (D) of Present Invention 1 are names of components that indicate the same chemical structure from different viewpoints, and there are compounds, such as triglycidl isocyanurate, that correspond to both

components.

Therefore, Present Invention 1 is nothing but an invention that used triglycidl isocyanurate, which can be used in the same manner as bisphenol S type epoxy resin and is publicly known as N-glycidl type epoxy resin, as a substitute for bisphenol S type epoxy resin used in the photosensitive thermosetting epoxy resin composition stated in Working Example 4 in Exhibit Ko No. 3.

Moreover, according to Table 1 shown in the Japanese Examined Patent Publication for the Patent (Exhibit Otsu No. 1), no remarkable difference is found between the use of "EPICLON EXA-1514," which is a bisphenol S type epoxy resin (Working Example 3), and the use of "ARALDITE PT810" or "TEPIC," a heterocyclic epoxy resin in a finely powdered form (Working Example 6 or Working Example 7, respectively), as component (D).

Accordingly, the working examples shown in Present Invention 1, where heterocyclic epoxy resin was used as component (D), have only used N-glycidl type epoxy resin as a substitute for bisphenol S type epoxy resin used in Working Example 4 disclosed in Exhibit Ko No. 3, and have achieved an effect which could be naturally expected, and thus such invention could have easily been invented by a person skilled in the art based on the Invention Based on Exhibit Ko No. 3.

(3) Counterarguments to the defendant's allegations

A. The defendant alleges that the object of the Invention Based on Exhibit Ko No.3, which is to improve the resistance to heat and resistance to solvents, etc., is different from the object of the Present Inventions, i.e. improvement of the developing property and sensitivity, etc.

However, according to Table 1 shown in the Japanese Examined Patent Publication for the Patent, the developing property and sensitivity showed lower results, and the pot life was shorter when using "ARALDITE PT810" or "TEPIC," a heterocyclic epoxy resin in a finely powdered form (Working Example 6 or Working Example 7, respectively) than when using "EPICLON EXA-1514" (Working Example 3), and thus the defendant's allegation is contrary to the fact.

B. The defendant alleges that it is not described or claimed in the Working Example 4 disclosed in Exhibit Ko No.3 that "EPICLON EXA-1514" should be "sparingly soluble" or be "in a finely powdered form."

The fact that "EPICLON EXA-1514" is "sparingly soluble" and is "in a finely powdered form" has simply not been stated in Exhibit Ko No.3, but, as it is obvious from the results of experiment 4 disclosed in Exhibit Ko No.4, "EPICLON EXA-1514" is "sparingly soluble" and would naturally be used "in a finely powdered form" based on

common general technical knowledge (Exhibits Ko No. 17 through 26).

Taking into account the facts that bisphenol S type epoxy resin was deleted from the alternatives for component (D) and the working example using "EPICLON EXA-1514" was deleted from the description in response to the objections raised against the Japanese Examined Patent Publication for the Patent by citing Exhibit Ko No. 3, "EPICLON EXA-1514" as used in the Invention Based on Exhibit Ko No. 3 should be considered as satisfying the conditions of being "sparingly soluble" and "in a finely powdered form."

C. The defendant alleges that, in selecting an "epoxy compound possessing at least two epoxy groups in the molecular unit thereof," it would not be easy for a person skilled in the art to select a compound which is "sparingly soluble" and "in a finely powdered form" for such epoxy compound.

Nevertheless, "TEPIC" can be immediately recognized to be in a finely powdered form from its appearance, and it is obvious that "ARALDITE PT810" would be in a finely powdered form after being kneaded. Further, "EPICLON EXA-1514" is inevitably in a "sparingly soluble" state in the Invention Based on Exhibit Ko No. 3 as mentioned above, and therefore, there is no difficulty in adding the conditions of "sparingly soluble" and "in a finely powdered form" to the constitutions of the Invention Based on Exhibit Ko No. 3.

4. Ground for rescission No. 4 (errors in the determinations on "incomplete inventions")

(1) The JPO Decision determined that Present Invention 1 satisfied the requirements provided for in the main clause of Article 29, paragraph (1) of the Patent Act by finding that compositions using the relevant components were stated in the working examples (i.e. (a-1-1) and (c-1) in Working Example 3, (a-2-2) in Working Example 4, (a-1-1) and (b-1-1) in Working Example 5 and (c-1) in Working Example 6) as the specific embodiment of Present Invention 1 and thus photosensitive thermosetting resin compositions actually containing the typical alternatives for the component were disclosed. However, the abovementioned determination made in the JPO Decision is erroneous.

(2) In cases where one type of substance is used singly as component (A) of Present Invention 1, there would be 12 alternatives, and if one type of substance is used singly as component (D), there would be 5 alternatives. Thus, Present Invention 1 collectively contains 60 inventions.

Moreover, if two types of substances were used in combination as component (A), there would be 90 alternatives, which would result in 450 alternatives when multiplied by 5 alternatives for component (D) in the case where it is used singly.

Even if only one or two types of substances were used as component (A) in Present Invention 1, there would be 720 alternatives for the inventions which would be obtained by multiplying 5 alternatives for component (D) by 144 alternatives obtained by the sum of 12 alternatives for component (A) in case where only one type of substance is used and 132 alternatives (12 × 11) in the case where component (A) consists of a combination of two types of substances.

Among the working examples shown in the Description, Working Examples 1, 2 and 6 would not be included in the working examples for Present Invention 1, and then, only three working examples had been completed at the time of filing the application in question, i.e. Working Examples 3 to 5, which would by no means lead to the presumption that an invention was completed at the time of filing the application in question for all of the 60 alternatives (or 450 or 720 alternatives) as mentioned above.

Therefore, Present Invention 1 includes portions which are yet to be completed, and thus is an incomplete invention as a whole.

(3) The defendant alleges that the findings made in the JPO Decision that "it may be expected that the alternatives among each group (a) through (c) would behave in the same way even if they were substituted for each other" is correct.

However, except for group (c) among groups (a) through (c), the characteristic group that defines the properties of the resins in each group, i.e. the group attached to the novolak resin through an epoxy group, has a wide variety. Moreover, (c-1) and (c-2), which are prepolymers derived from phthal acid or isophthal acid and different from those derived from an epoxy group of a novolak resin, have no structural similarity with group (a) and group (b).

Furthermore, it is a common knowledge among the persons skilled in the art that, in regard to the resin component in a photosensitive resin composition, the properties of the resist pattern to be obtained after photo-curing would be different in the case where a given resin is used singly or in combination with other resins. Thus, the defendant's allegation is unreasonable.

5. Ground for rescission No. 5 (errors in the determinations on "insufficient statements")

(1) The JPO Decision determined the following facts: (i) a specific example for manufacturing component (A) is prescribed in the detailed explanation of the inventions disclosed in the Description; (ii) specific combinations of component (C) and component (D) are given as Working Examples 3 through 6 in the detailed explanation of the inventions disclosed in the Description; and (iii) it cannot be found that a person skilled in the art would be compelled to conduct trial and error beyond a reasonably-expected

extent because the compound in which component (D) would not dissolve shall be empirically decided from among the components exemplified as component (C) in the detailed explanation of the inventions. However, the abovementioned determination made in the JPO Decision is erroneous.

(2) In the Description, only three working examples have been shown as the specific embodiment of Present Invention 1. Even if Working Example 6, where only (a-1) and/or (a-2) is contained as component (A), is used as a reference, the same conditions cannot be necessarily used to obtain the desired photosensitive thermosetting resin composition if Component (A) comprising different constituents is used in combination with component (C) and component (D). Therefore, these examples alone are insufficient to find that Present Invention 1 in its entirety could have been easily worked by a person skilled in the art.

Accordingly, the detailed explanation of the inventions included in the Description cannot be deemed to have stated the object, constitutions and effect of the relevant inventions sufficiently enough for a person ordinarily skilled in the art of the invention to easily work said inventions. Moreover, the scope of claims which stated matters related to the specific embodiment of the inventions that was not clearly stated in the detailed description of the inventions cannot be considered to have satisfied the description requirements provided for in the Patent Act.

6. Ground for rescission No. 6 (errors in the determinations concerning Present Invention 2)

The JPO Decision found Present Invention 2 to be an invention of a method of formation, which only differs from Present Invention 1 in that component (E) is further included in the combination for a resin composition, and held that there were no grounds for invalidation of Present Invention 2 for the same reason as that for Present Invention 1.

However, there are grounds for invalidation of Present Invention 2 for the same reasons as those stated in grounds for rescission No. 3 through 5, and the determination made in the JPO Decision is erroneous.

No. 4 Allegations made by the defendant regarding the grounds for rescission of the JPO Decision

1. Regarding ground for rescission No. 1 (errors in the determinations on the appropriateness of the Corrections)

(1) The plaintiff alleges that the Present Inventions and the inventions stated in the Prior Description do not differ in terms of the technical idea and that the Corrections do not fall under the case where a “disclaimer” would exceptionally be allowed. However,

as found in the JPO Decision, the Prior Description has not disclosed the technical idea of the Present Inventions and there is a remarkable difference in the technical idea between the abovementioned inventions, and thus, the plaintiff's allegation is unreasonable.

(2) The plaintiff alleges that the Corrections have not been made for the restriction of the scope of claims on the grounds that the statement of the inventions using "TEPIC" as component (D) still remains in the scope of claims after the Corrections and thus the difference between the parts excluded from the scope of claims by a "disclaimer" and the parts left belonging to the inventions in question is not technically clear.

However, the facts that a composition identical to that of Present Invention 1 was accidentally disclosed in the Working Example 2 disclosed in the Prior Description and that such composition was excluded from the scope of claims of the Patent by the Corrections lead to the conclusion that Present Invention 1 has not been disclosed in the Prior Description.

Therefore, the plaintiff's allegation is unreasonable.

(3) The plaintiff alleges that the term "TEPIC" stated in the "disclaimer" is a registered trademark and is technically ambiguous. The plaintiff also alleges that the use of registered trademarks in the description is prohibited in principle.

However, as "TEPIC" had been stated as one of the components constituting the composition in Working Example 2 disclosed in the Prior Description, the Corrections excluded the compositions stated in said Working Example 2 without excess or deficiency by conscientiously citing the statements in said working example, and as a result, the trademark name was stated in the "disclaimer." Yet, as it was found in the JPO Decision, use of trademarks would be allowed in cases where such use is inevitable, and thus the plaintiff's allegation is unreasonable.

Moreover, inclusion of the names of goods or trademarks in a disclaimer is allowed in the practices of the JPO.

(4) Consequently, the allegations made by the plaintiff are all unreasonable, and ground for rescission No. 1 is groundless.

2. Regarding ground for rescission No. 2 (errors in the determination on the identity of the Present Inventions and Cited Inventions)

(1) The plaintiff alleges that a technical idea identical to that of the Present Inventions has been disclosed in the Prior Description. Nevertheless, none of the following statements can be found in the Prior Description: (i) a statement of "a finely powdered epoxy compound (resin) exhibiting sparing solubility in the diluent to be used;" and (ii) a statement suggesting that the use of such epoxy compound (resin) leads to the feature of

operation and effect, such as "the composition, therefore, is hardly corroded by the developing solution nor entails any decline of sensitivity. Further, during the course of the development, the epoxy compound is enabled to be melted and thermoset by itself or to be copolymerized with the photosensitive prepolymer. As a result, a solder resist pattern for a printed circuit board possessing various highly desirable properties can be produced." Therefore, the Prior Description cannot be considered as disclosing a technical idea identical to that of the Present Inventions, and thus the plaintiff's allegation is unreasonable.

(2) The plaintiff alleges that the constitutions of the Present Inventions are stated in the Prior Description and that the Cited Inventions and the Present Inventions are identical in terms of their use and operation and effect.

However, while the feature of the Present Inventions resides in the fact that it is a "photosensitive thermosetting resin composition using a finely powdered epoxy resin exhibiting sparing solubility in the diluent," which generates a specific effect, no such invention has been disclosed in the Prior Description.

Moreover, as "TEPIC" is not required to be in "a finely powdered form, exhibiting sparing solubility in the diluent to be used, and assuming a solid or semi-solid state" in the Prior Description, even if the "TEPIC" as used in the Working Example 2 disclosed in the Prior Description happened to "exhibit sparing solubility in the diluent," this would not promptly lead to the conclusion that an epoxy resin which "exhibits sparing solubility in the diluent" has been selected as the epoxy resin to be contained in the photo resist composition in the Cited Inventions.

(3) Therefore, the plaintiff's allegations are unreasonable and ground for rescission No. 2 is groundless.

3. Regarding ground for rescission No. 3 (errors in the determinations on the difference between Present Invention 1 and Invention Based on Exhibit Ko No. 3)

The plaintiff, by citing Exhibit Ko No. 3, alleges that a person skilled in the art can easily select heterocyclic epoxy resin, such as "TEPIC" or "ARDALITE PT810," that share the same shape and solvent behavior with "EPICLON EXA-1514" from among publicly known epoxy resins.

Yet, while the object of the Invention Based on Exhibit Ko No. 3 is to improve the heat resistance and solvent resistance, etc., the object of Present Invention 1 is to improve the developing property and sensitivity, etc. Moreover, based on the fact that "EPICLON EXA-1514" is not prescribed as exhibiting sparing solubility or being in a finely powdered form in the Working Example 4 disclosed in Exhibit Ko No. 3, even if a person skilled in the art could easily select other "epoxy resin possessing at least two

epoxy groups in the molecular unit thereof" stated in Exhibit Ko No. 3 as a substitute for "EPICLON EXA-1514," a bisphenol S type epoxy resin, it would not be easy for such person skilled in the art to employ a compound that is "sparingly soluble" in the diluent to be used and is "in a finely powdered form," as such compound.

4. Regarding ground for rescission No. 4 (errors in the determinations on "incomplete inventions")

The plaintiff alleges that Present Invention 1 is incomplete on the grounds that although there are 12 alternatives for component (A) and 5 alternatives for component (D) and thus at least 60 working examples are required, only three working examples (i.e. Working Examples 3 through 5) have been disclosed in the Description.

However, the JPO Decision has correctly found that "it may be expected that the alternatives among each group (a) through (c) would behave in the same way even if they were substituted for each other," and moreover, "a photosensitive prepolymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof" that constitutes component (A) of Present Invention 1 has been widely used (exploited) as an essential component of a photosensitive thermosetting resin composition. Accordingly, the separate indication of such photosensitive prepolymer cannot serve as the ground to find that the exploitation of Present Invention 1 was impossible.

Therefore, the plaintiff's allegation is unreasonable, and ground for rescission No. 4 is groundless.

5. Regarding ground for rescission No. 5 (errors in the determinations on "insufficient statements")

The plaintiff alleges that the mere descriptions of three working examples as the specific embodiment of Present Invention 1 in the Description cannot lead to the conclusion that a person skilled in the art can easily work Present Invention 1 in its entirety.

It is obvious, however, from the statements on the operation and effect of the inventions in the detailed explanation of the inventions included in the Description, that the use of a finely powdered epoxy resin exhibiting sparing solubility in the diluent as component (D) would achieve a specific effect in Present Invention 1.

Accordingly, the detailed explanation of the inventions included in the Description should be considered as being stated to an extent sufficient enough for a person skilled in the art to easily work Present Invention 1, and thus the plaintiff's allegation s unreasonable and ground for rescission No. 5 is groundless.

6. Regarding ground for rescission No. 6 (errors in the determinations concerning Present Invention 2)

For the same reasons stated in regard to grounds for rescission No. 3 through 5, there are no errors in the determinations made in the JPO Decision regarding Present Invention 2, and thus the plaintiff's allegation is unreasonable and ground for rescission No. 6 is groundless.

No. 5 Judgment of this court

1. Regarding ground for rescission No. 1 (errors in the determinations on the appropriateness of the Corrections)

(1) The plaintiff alleges that the Corrections are made to provide a "disclaimer," and thus cannot be considered to be corrections made "within the scope of matters stated in the description or drawings attached to the application" as provided for in the proviso to Article 134, paragraph (2) of the Patent Act prior to the revision by Act No. 116 of 1994 for which it was provided that the provisions then in force shall remain applicable in Article 6, paragraph (1) of the revised Supplementary Provisions of said Act (hereinafter the phrase starting from "prior to" shall simply be referred to as "prior to the revision in 1994").

Moreover, the plaintiff has additionally made the following allegations: (i) while the statements of the scope of claims after the Corrections include the statement of a registered trademark "TEPIC," the details of the Corrections cannot be technically identified by the statement of the registered trademark, and thus the Corrections cannot be considered to have been made for the restriction of the scope of claims; and (ii) the Corrections only exclude some combinations included in the inventions prior to the Corrections, and therefore, the inventions prior to the Corrections and the Present Inventions are substantially identical, and the Corrections cannot be considered to have been made to "restrict" the scope of claims.

Accordingly, this court will examine these allegations one by one.

(2) Regarding the meaning of the phrase "within the scope of matters stated in the description or drawings attached to the application"

A. Background, purpose and interpretation of the abovementioned provision

Article 17, paragraph (2) of the Patent Act prior to the revision in 1994 provides that "any amendments to the description or drawings under the provision of the main clause of the preceding paragraph shall be made within the scope of matters stated in the description or drawings originally attached to the application." This provision was provided for by the revision made to the Patent Act by Act No. 26 of 1993, by reference to the wordings used in the Article 11 of the Act on International Applications under the Patent Cooperation Treaty prior to the revision by Act No. 160 of 1999, which provided for that "An applicant, who has filed a request for international preliminary

examination, may amend the description, scope of claims or drawings within the scope of matters stated in the description, scope of claims or drawing at the time of filing the international application related to such request, only within the time limit designated in the Ordinance of the Ministry of International Trade and Industry." Moreover, Article 11 of the abovementioned Act was based on the provision of Article 34(2)(b) of the Patent Cooperation Treaty, which provided for that "The applicant shall have a right to amend the claims, the description, and the drawings, in the prescribed manner and within the prescribed time limit, before the international preliminary examination report is established. The amendment shall not go beyond the disclosure in the international application as filed." This provision is considered to have been prescribed with the purpose of balancing the interests between the applicant and third parties by allowing the applicant to amend the application but not beyond the disclosure in the application as filed.

Accordingly, Article 17, paragraph (2) of the Patent Act prior to the revision in 1994 can be recognized to have been provided with the same purpose as the provision mentioned above (the same could be said for Article 17-2, paragraph (2) of said Act wherein Article 17, paragraph (2) of said Act shall be applied mutatis mutandis, and for Article 17-3, paragraph (2) of said Act, which provides for that amendments "shall be made within the scope of matters stated in the description or drawings attached to the application.")

Article 134, paragraph (2) of the Patent Act prior to the revision in 1994, which provided for corrections, sought harmonization of the systems of other major countries for the protection of inventions by giving the patentees an opportunity to correct the description or drawings to the extent that would not cause unexpected damages to a third party, while avoiding delay in proceedings by allowing the proceedings for the correction to be made concurrently with the proceedings for the trial for invalidation of patent. Further, it was provided in the proviso to said paragraph that a correction should also be made "within the scope of matters stated in the description or drawings attached to the application," as with the case of amendments, with the limitation that corrections would only be allowed in cases where they are made for the "restriction of the scope of claims," "correction of errors," or "clarification of an ambiguous statement," which are deemed to be the minimum extent necessary to achieve the purpose of the correction, that is, to avoid the relevant patent from being invalidated after the patent has been granted (said proviso is identical to the proviso to Article 126, paragraph (1) of the Patent Act prior to the revision in 1994 which provides for corrections in the case of a request for trial for a correction).

Based on the abovementioned findings, the Patent Act prior to the revision in 1994 can be recognized to have provided for that an amendment shall be made "within the scope of matters sated in the description or drawings attached to the application" to secure sufficient disclosure of the invention as of the filing, guarantee immediate grant of rights, ensure fairness between an application that sufficiently discloses the invention as of the filing and an application that does not and to prevent a third party, who has acted based on the scope of invention disclosed as of the filing from incurring unexpected damages. Furthermore, said Patent Act can be recognized to have consistently provided the same requirements for corrections, which may be made after the grant of patent, to ensure sufficient disclosure of the inventions as of the filing and to substantially secure the first-to-file system (based on the fact that Article 126, paragraph (2) of the Patent Act prior to the revision in 1994 has provided for that the corrections to be made in relation to a request for a trial for correction "shall not substantially enlarge or alter the scope of claims," and that said provision is applied mutatis mutandis in Article 64, paragraph (4) and Article 134, paragraph (5) of said Act, it may be construed that, not only the corrections to be made in relation to a request for a trial for correction but also the amendments to be made after the service of a certified copy of a decision to the effect that the application should be publicly notified, and the corrections to be made in relation to a request for corrections had been ensured to be made so as not to cause any unexpected disadvantages to a third party).

Based on such purpose of the Patent Act, the wordings "within the scope of matters stated in the description or drawings" as provided for in Article 17, paragraph (2) of the Patent Act prior to the revision in 1994 should be interpreted in the following manner.

The "matters stated in the description or drawings" are disclosed to third parties by the applicant as a prerequisite for gaining a monopoly based on a patent right for an invention, the highly advanced creation of technical ideas, and such "matters" must be technical matters concerning the invention disclosed in the description or drawings. And the "matters stated in the description or drawings" mean technical matters that a person skilled in the art can understand, taking into account all statements in the description or drawings. Where an amendment does not add any new technical matters to the technical matters that can be understood in this manner, the amendment can be deemed to be made within the "scope of the matters stated in the description or drawings."

Moreover, the similar wordings as provide for in the proviso to Article 134, paragraph (2) of said Act should be interpreted in the same manner, and thus where a correction does not add any new technical matters to the technical matters that a person skilled in

the art can understand, taking into account all statements in the description or drawings, the correction can be deemed to be made within the "scope of the matters stated in the description or drawings."

Yet, the matters stated in the description or drawings are usually related to the technical idea disclosed in the description or drawings. Thus, for example, where a correction to add limitations on the scope of claims is to be made for the restriction the scope of claims, if the matters of correction to be added are explicitly stated in the description or drawings, or if they are obvious from such statements, unless there are special circumstances, such correction shall be found to have not added any new technical matters and can be deemed to be made within the "scope of matters stated in the description or drawings." In practice, this method of determination appears to be appropriate for many cases.

Article 29-2 of the Patent Act prior to the revision by Act No. 116 of 1194 for which it was provided that the provisions then in force shall remain applicable pursuant to Article 8, paragraph (1) of the Supplementary Provisions of said Act (hereinafter the phrase starting from "prior to" shall simply referred to "prior to the revision in 1994") provides that where an invention for which a patent application has been filed is identical to the invention stated in the description or drawings originally attached to another patent application which has been filed before the first mentioned patent application but published after such first mentioned application (hereinafter the second-mentioned invention shall be referred to as a "Prior Invention"), the first mentioned invention cannot be patented. Accordingly, there are cases where a demandee of a trial for invalidation of a patent files a request for correction to exclude the portions of the invention pertaining to the relevant patent application which are identical to a Prior Invention by using a negative expression, such as "excluding" (which is generally referred to as a "disclaimer") in the statements of the scope of claims, with the purpose to avoid the relevant patent from being invalidated based on Article 123, paragraph (1), item (i) of the Patent Act prior to the revision by Act No. 26 of 1993 for which it was provided that the provisions then in force shall remain applicable pursuant to Article 2, paragraph (4) of the Supplementary Provisions of said Act, on the grounds that the demandee's invention falls under the abovementioned provision, Article 29-2 of the Patent Act prior to the revision in 1994.

In this case, since the patentee, at the time of filing of the patent application, is not aware of the existence of the Prior Invention, the description or drawings attached to his/her application usually do not contain any specific statements on such Prior Invention. The provision of the proviso to Article 134, paragraph (2) of the Patent Act

prior to the revision in 1994 shall also apply to a correction to be made to correct the matters that are not specifically stated in the description or drawings. As long as such correction can be found not to be adding any new technical matters to the technical matters disclosed in the statements in the description or drawings, it should be deemed to be made within the "scope of the matters stated in the description or drawings."

Based on the abovementioned findings, the Corrections shall be examined below.

B. Regarding the Corrections

(A) The Description (Exhibits Otsu No. 1 and No. 2) contains the following statements (provided, that the identification of the places where the relevant statements are made is based on the places of the statements in the Patent Publication pertaining to the Patent).

"[…], when a composition uses a finely powdered epoxy compound (resin) sparingly soluble in a diluent to be used in the composition as in the case of the composition of the present inventions, the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy compound. When a composition using a photosensitive prepolymer soluble in an aqueous alkali solution is developed with an aqueous alkali solution, since the epoxy compound does not impair the solubility of the photosensitive prepolymer and further it is sparingly soluble in the diluent to be used, the composition exhibits low reactivity with the curing agent for epoxy resin and does not easily induce the phenomenon of heat fogging and enjoys a satisfactory developing property. When a composition using a photosensitive prepolymer soluble in the organic solvent to be used for development, said organic solvent as a diluent, and a finely powdered epoxy compound sparingly soluble in the organic solvent is developed with an organic solvent, since the epoxy compound is sparingly soluble in the organic solvent mentioned above, the exposed portion is not easily corroded by the developing solution and induces no decline of sensitivity. Moreover, the developing property of the unexposed portion is satisfactory because the epoxy compound is in the form of a fine particle and, therefore, is incapable of lowering the solubility of the photosensitive prepolymer and unlikely to induce the phenomenon of heat fogging. Furthermore, in said either case, the shelf life of the composition becomes longer, since the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy compound and the reactivity of the epoxy compound with the curing agent is low as mention above." (lines 7 to 28 in paragraph 12 on page 6).

"[…], the salient feature of the photosensitive thermosetting resin composition of the present inventions resides in the fact that a "finely powdered" epoxy compound "sparingly soluble" in the diluent "to be used" is employed as a thermosetting

component. The finely powdered (fine particulate) epoxy compound, which is an essential component, is sparingly soluble in the diluent to be used and is intended to be used as dispersed in the finely powdered form, i.e., in the same manner as a filler. The composition, therefore, is hardly corroded by the developing solution nor entails any decline of sensitivity. Further, since the finely powdered epoxy compound in the unexposed portion is washed away by the developing solution during the course of the development, the composition so excels in developing property as to be developed in a shorter time. The subsequent application of heat makes the epoxy compound be melted and thermoset in itself or copolymerizes it with the photosensitive prepolymer. As a result, a solder resist pattern for a printed circuit board possessing various highly desirable properties can be produced. As it is plain from the description of the function given above, the term "sparingly soluble" as used in the present description refers to the concept of exhibiting not only the insolubility in the diluent to be used but also the meager solubility capable of manifesting the function described above" (lines 29 to 45 in paragraph 12 on page 6).

According to the statements above and the statements in Claim 1 and Claim 22 included in the scope of claims prior to the Corrections, the salient feature of Initial Inventions 1 and 2 resides in the fact that a finely powdered epoxy resin sparingly soluble in the diluent to be used is employed as the thermosetting component for component (D), among components (A) to (D) and components (A) to (E). At the same time, such inventions are found to be inventions achieving the following effects: (i) as a result of using such epoxy resin, the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy resin and the solubility of the photosensitive thermosetting shall not be impaired; (ii) since the epoxy exhibits low reactivity with the curing agent, the developing property would not be impaired, and further (iii) the exposed portion is not easily corroded by the developing solution and the shelf life of the composition becomes longer. And the Description can be deemed to have disclosed a technical idea characterized by the abovementioned technical matters.

Moreover, according to the statements in said Description, among components (A) to (D) and components (A) to (E) of Initial Inventions 1 and 2, component (A) is one type or two or more types of photosensitive prepolymer selected from among one or more groups of reaction products of various substances, as stated in Claim 1 included in the scope of claims, and a wide variation is found in the substances exemplified or the products exemplified for each substance. Furthermore, with regard to a photoinitiator as component (B), a photopolymerizable vinyl monomer and/or an organic solvent as the diluent as component (C), a finely powdered epoxy compound possessing at least two

epoxy groups in the molecular unit thereof as component (D), and a curing agent for epoxy resin as component (E), various substances and products have been listed as typical examples or preferred examples, and a single substance or combination of two or more types or a compound can be used for each of them.

(B) Meanwhile, the following statements are found in Working Example 2 disclosed in the Prior Description (Exhibit Ko No. 1).

"Working Example 2: A compound composed of about 230 parts by weight of a cresol novalak type epoxy resin (EOCN104) having an epoxy equivalent of about 230, 230 parts by weight of cellosolve acetate (inert organic solvent), about 75 parts by weight of acrylic acid, about 2 parts by weight of hydroquinonemonomethyl ether, and about 2 parts by weight of triethylamine as an esterification catalyst was heated and stirred for reaction at a temperature of about 80°C for 20 hours, and thereby obtaining an epoxy acrylate having an acid value of about 12. Then, about 100 parts by weight of composition obtained by adding about 74 parts by weight of phthalic anhydride to the abovementioned compound and stirring for reaction at about 80°C for two hours, were compounded with 5 parts by weight of pentaerythritol tetraacrylate, 10 parts by weight of multifunctional epoxy resin ("TEPIC"), about 2 parts by weight of 2-methylanthraquinone, about one part by weight of benzyl dimethyl ketal, and 0.5 parts by weight of 2-ethyl-4-methylimidazole, and thereby obtaining the composition of the present invention. This composition was then applied to one side of the copper clad laminate in a thickness of 0.01 to 0.02 mm by the method of curtain coating, heated and dried at about 60°C for 60 minutes, and then cooled at ambient temperature to a non-adhesion state. Furthermore, a negative film having a predetermined pattern was adhered onto the copper clad laminate, and such copper clad laminate was exposed to and irradiated by an ultraviolet layer with an intensity of 25mw/cm2 at a wavelength of 365nm for 10 seconds, developed by a 1 % soda aqueous solution, and then heated and cured by 150°C for 30 minutes to attach resistance to heat. The coating film obtained produced a 200 μm line width pattern, and showed a resistance to soldering heat of 250°C for 60 seconds." (line 7 in the upper right column to line 13 in the lower left column on page 5).

There is no dispute between the parties over the fact that the elements stated above correspond to the components of the Initial Inventions, as mentioned in (i) to (v) below, and further over the fact that the photosensitive thermosetting resin composition of Initial Invention 1, which is specified by the statements of the scope of claims made in the Description, and the method of forming a solder resist pattern of Initial Invention 2 are identical to the relevant cited inventions (i.e. the inventions of the composition and

method to form a coating film as stated in Working Example 2 disclosed in the Prior Description).

(i) An "epoxy acrylate having an acid value of about 12" obtained by causing "about 230 parts by weight of a cresol novolak type epoxy resin (EOCN104) having an epoxy equivalent of about 230" to react with "about 75 parts by weight of acrylic acid" corresponds to (a-1), "the complete esterification product of epoxy group produced by the esterification reaction of a novolak type epoxy compound and an unsaturated monocarboxylic acid," or (a-2) "partial esterification product," which are among the constituents of component (A) of the Initial Inventions; and the reaction product of "about 100 parts by weight obtained by adding about 74 parts by weight of phthalic anhydride to the 'epoxy acrylate having an acid value of about 12' and stirring for reaction at about 80°C for two hours" corresponds to the "reaction product obtained by a polybasic acid anhydride" mentioned as (a-1-1) or (a-2-1).

(ii) "About 2 parts by weight of 2-methylanthraquinone, (and) about one part by weight of benzyl dimethyl ketal" corresponds to the "photoinitiator" as component (B) of the Initial Inventions, and "5 parts by weight of pentaerythritol tetraacrylate" and "230 parts by weight of cellosolve acetate (inert organic solvent)" correspond to the "photopolymerizable vinyl monomer" and "organic solvent" as a diluent to be used as component (C) of the Initial Inventions, respectively.

(iii) "10 parts by weight of multifunctional epoxy resin ("TEPIC")" corresponds to the "finely powdered epoxy compound possessing at least two epoxy groups in the molecular unit thereof and exhibiting sparing solubility in the abovementioned diluent to be used" which is defined as component (D) of the Initial Inventions.

(iv) "0.5 parts by weight of 2-ethyl-4-methylimidazole" corresponds to the "curing agent for epoxy resin" defined as component (E) of Initial Invention 2, and the "composition of the inventions" obtained by the mixture of the abovementioned substances corresponds to the "photosensitive thermosetting resin composition" of the Initial Inventions.

(v) The part, "This composition was then applied to one side of the copper clad laminate in a thickness of 0.01 to 0.02 mm by the method of curtain coating, heated and dried at about 60°C for 60 minutes, and then cooled at ambient temperature to a non-adhesion state. Furthermore, a negative film having a predetermined pattern was adhered onto the copper clad laminate, and such copper clad laminate was exposed to and irradiated by an ultraviolet layer with an intensity of 25mw/cm2 at a wavelength of 365nm for 10 seconds, developed by a 1 % soda aqueous solution, and then heated and cured by 150°C for 30 minutes to attach resistance to heat," corresponds to the part

"applying on the surface of a printed circuit board a photosensitive thermosetting resin composition mentioned in Initial Invention 1, which contains a curing agent for epoxy resin as needed, exposing the applied layer of said composition selectively to an actinic ray through a photomask having a given pattern, developing the unexposed portion of the applied layer with a developing solution thereby giving rise to a resist pattern, and thereafter thermosetting said finely powdered epoxy compound by application of heat." included in Initial Invention 2.

(C) The details of the Corrections are as mentioned in the following items (i) and (ii).

(i) Correction 1

Claim 1 included in the scope of claims shall be corrected by adding the phrase, "Provided that, a photosensitive thermosetting resin composition, comprising (A) 'reaction products obtained by causing phthalic anhydride to react with epoxy acrylate obtained by causing cresol novolak type epoxy resin to react with acrylic acid,' (B) '2-methyl anthraquinone' and 'dimethyl benzyl ketal' equivalent to a photoinitiator, (C) 'pentaerythritoltetraacrylate' and 'cellosolve acetate,' and (D) a multifunctional epoxy resin ("TEPIC" manufactured by Nissan Chemical Industries, Ltd.; Registered Trademark) which is "an epoxy compound possessing at least two epoxy groups in the molecular unit thereof, "shall be excluded" after the term "tetraglycidylxy lenoylethane resin."

(ii) Correction 2

Claim 22 included in the scope of claims shall be corrected by adding the phrase "Provided that, a photosensitive thermosetting resin composition, comprising (A) 'reaction products obtained by causing phthalic anhydride to react with epoxy acrylate obtained by causing cresol novolak type epoxy resin to react with acrylic acid,' (B) '2-methyl anthraquinone' and 'dimethyl benxyl ketal' equivalent to a photoinitiator, (C) 'pentaerythritol tetraacrylate' and 'cellosolve acetate,' (D) a multifunctional epoxy resin ("TEPIC" manufactured by Nissan Chemical Industries, Ltd.; Registered Trademark) which is 'an epoxy compound possessing at least two epoxy groups in the molecular unit thereof,' and (E) '2-ethyl-4-methylimidazole' shall be excluded from the abovementioned photosensitive thermosetting resin composition" after the phrase "said finely powdered epoxy compound by application of heat."

Claim 22 included in the scope of claims has however newly become Claim 21 included in the scope of claims in connection with the deletion of Claim 18 included in the scope of claims, as mentioned in No. 2, 2. above.

(D) As mentioned in (B) above, there is no dispute between the parties over the fact that the photosensitive thermosetting resin composition of Initial Invention 1 and the

method of forming a solder resist pattern of Initial Invention 2 are identical to the relevant cited inventions (i.e. the inventions of the composition and method to form a coating film as stated in Working Example 2 disclosed in the Prior Description). Thus, various substances or products are found capable of being used as the components of Initial Inventions 1 and 2, as referred to in (A) above.

Then, according to the statements of the scope of claims in the Description and the statements of the Working Example 2 disclosed in the Prior Description as mentioned in (B) above, it may be found that the Corrections were intended to exclude the relevant parts of the Initial Inventions that are identical to the Cited Inventions, by explaining the contents of the Cited Inventions which are to be excluded, or listing the components contained in Initial Inventions 1 and 2—components (A) to (D) and (A) to (E), and identifying and excluding part of the substances or products that may correspond to the relevant components with negative expressions (in the form of a "disclaimer"), while citing the statements on the specific substances or products used in Working Example 2 disclosed in the Prior Description.

C. Application to this case

As mentioned in A. above, where a correction does not add any new technical matters to the technical matters that a person skilled in the art can understand, taking into account all statements in the description or drawings, the correction can be deemed to be made within the "scope of the matters stated in the description or drawings." According to B. above, the salient feature of the inventions after the Corrections also resides in the fact that a finely powdered epoxy resin sparingly soluble in the diluent to be used is employed as the thermosetting component, in the composition comprising every possible combination of components (A) to (D) and components (A) to (E), except for the specific combinations being identical to the content of the cited inventions. Further, such inventions are found to achieve the following effects: (i) as a result of using such epoxy resins, the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy resin and thus the solubility of the photosensitive thermosetting shall not be impaired; (ii) since the epoxy resin exhibits low reactivity with the curing agent, the developing property will not impaired, and further (iii) the exposed portion is not easily corroded by the developing solution and the shelf life of the composition becomes longer. Accordingly, the exclusion of specific combinations corresponding to the cited inventions has not caused any change to the technical matters concerning the inventions prior to the Corrections as stated in the Description, and thus it is obvious that the Corrections have not added any new technical matters to the technical matters disclosed in the Description. Moreover, the Corrections have

clearly not added any new technical matters to the technical matters that a person skilled in the art can understand, taking into account all statements in the description or drawings.

Accordingly, the Corrections are found to have been made "within the scope of matters stated in the description or drawings attached to the application" as provided for in the proviso to Article 134, paragraph (2) of the Patent Act prior to the revision in 1994.

D. Regarding the Examination Guideline

The plaintiff alleges that the statements in the Examination Guideline concerning a "disclaimer" do not conform to the Patent Act. The plaintiff further alleges that if the Examination Guideline had provided for any exceptions to the Patent Act, regarding "disclaimer," exceptions should be allowed in a strict manner, but the JPO Decision has failed to make findings on the requirement for a "disclaimer" to be exceptionally allowed.

These points shall also be examined in the following parts.

In subsection "3. Basic concept" of "Part III Amendment of Description or Drawings," "Section 1 New Matters" in the Examination Guideline (reference material 2 attached as written opinion pursuant to Article 180-2 of the Patent Act), the following statements are found.

"(1) Any amendment that includes contents beyond the scope of "matters stated in the originally attached description, etc." (the amendment including new matters) is not permitted.

(2) The "matters stated in the originally attached description, etc." also include, in addition to the "matters explicitly stated in the originally attached description, etc.," the "matters obvious from the statements in the originally attached description, etc." that are not explicitly stated.

(3) In order to find that the amended matters are "matters obvious from the statements in the originally attached description, etc.," it is required that a person skilled in the art who have accessed them evidently understands the meaning thereof in light of the common general technical knowledge at the time of filing and understands them as if they were stated therein, even if they are not stated in the description ([…]).

(4) As for well-known or commonly used art, just because the technology itself is a well-known art or commonly used art does not allow amendments to add new technical matters, and amendments are only allowed where they are to be made for matters obvious from the statements in the originally attached description, etc., which means where a person skilled in the art who have accessed it understands the matters as if

they were stated therein.

(5) In some cases, a matter is considered obvious from several statements in the originally attached description, etc. (for example, statement of the problem to be solved by the invention, statement of examples of the invention, statement of the description, and drawings) from a standpoint of a person skilled in the art. […]."

Although the abovementioned statements are provided for amendments, they pertain the interpretation of the wording "within the scope of the matters stated" in the description (originally) attached to the application, and thus should conform to Article 17, paragraph (2) of the Patent Act prior to the revision in 1994 (although the abovementioned statements in the Examination Guideline are those regarding Article 17-2, paragraph (3) of the current Patent Act, said provision is a revision of Article 17, paragraph (2) of the Patent Act prior to the revision in 1994, and no change has been made in the interpretation of the wording "within the scope of matters stated"), as well as to the interpretation of the same wording provided for in the proviso to Article 134, paragraph (2) of the Patent Act prior to the revision in 1994.

The statement that "any amendment that includes contents beyond the scope of 'matters stated in the originally attached description, etc.' " is not permitted in item (i) of the "Basic concept" as mentioned above can be recognized as a requirement for an amendment not to introduce new technical matters, and should also apply to cases where statements on specific technical matters are to be added in the statements in the descriptions, etc. as well as to cases where statements on specific technical matters are to be excluded from the statements in the description, etc.

At the same time, items (ii) through (v), which have stated the points to be taken into consideration in identifying the technical matters, can be recognized as showing that, regardless of the existence or absence of explicit statements, the matters that a person skilled in the art can understand, taking into account all information stated in the description, etc., can be deemed to be "matters stated."

Then, the individual statements in the "Basic concept," can be understood in consistency with the interpretation of the wording "within the scope of matters stated in the description or drawings" as held in A. above.

Furthermore, the Examination Guideline has mentioned two examples for an "amendment limiting part of the matters used to specify the invention" as "Examples of permitted amendment" (amendment changing "a recording or reproducing apparatus" in claims to "a disc recording or reproducing apparatus" and "amendment for changing words "work piece" in claims to words "rectangular work piece") in the part "4.2 Specifics" of "4. Amendment of scope of claims" following the abovementioned

statements, and allows amendment to remove certain technical matters (i.e. "a recoding or reproducing apparatus other than those in disc form," and "work piece other than rectangular work piece"). With regard to the amendments to add statements concerning specific technical matters as in the abovementioned examples, where the amended matters themselves are stated in the description, etc., unless there are special circumstances, such amendment can be deemed not to be introducing any new technical matters.

Meanwhile, the following statements can be found in subsection "(4) Disclaimer" contained in "Part III Amendment of description or drawings," "Section 1 New matters," "4. Amendment of scope of claims," "4.2 Specifics."

"'Disclaimer' refers to claims explicitly stating exclusion of only part of the matters included in the claimed inventions from matters stated in said claims.

'Disclaimer,' which excludes matters stated in the originally attached description, etc. through amendment while leaving the expression of the statement of matters stated in claims before amendment, is permitted if the "disclaimer" after exclusion is included within a scope of matters stated in the originally attached description, etc.

The amendment to provide a "disclaimer" in the following (i) and (ii) does not introduce new technical matters, and the amendment is permitted.

(i) if the claimed invention overlaps with the prior art and is thus likely to lose novelty, etc. (Article 29, paragraph (1), item (iii), Article 29-2 or Article 39), making an amendment to exclude only the overlap, while leaving the expression of the statement of matters stated in claims before amendment.

(ii) […]

(Explanation)

The "disclaimer" as mentioned in (i) above refers to a claim explicitly stating the exclusion of only the matters stated in the distributed publication, etc. or the description, etc. of an earlier application as a prior art relating to Article 29, paragraph (1), item (iii), Article 29-2, or Article 39 (including matters that are deemed as being stated therein),

(Note 1) An invention becomes patentable by making an amendment in the form of a "disclaimer," if the invention is remarkably different from the prior art as to the technical idea, and inherently involves an inventive step, but accidentally overlaps with the prior art. It is considered that if the invention is not remarkably different from the prior art as to the technical idea, amending claims to provide the "disclaimer" rarely eliminates a reason for refusal for lack of inventive step.

(Note 2) If the part of "exclusion" in the "disclaimer" occupies a major portion of the

claimed invention or extends to many portions thereof, please note that an invention may not be clearly identified from one claim.

[…]

The reasons for making such treatments are as follows.

(Explanation)

(i) If amendments are not allowed for inventions which lack inventive step due to accidentally overlapping with prior art, appropriate protection of inventions would not be achieved. Moreover, in these cases, even if the matters stated as prior art were excluded from the matters stated in the original claims, third parties would not be adversely affected unexpectedly.

[…]

(Specific examples)

Example of (i): If the scope of claims provides "An iron plate washing agent mainly consisting of an inorganic salt containing Na as a cation," while the prior art provides an invention of "an iron plate washing agent mainly consisting of an inorganic salt containing CO_3 ion as an anion" and discloses an example of employing Na ion as a cation, amendment to change the scope of claims to "….an inorganic salt containing NA ion as cation (excluding cases where anion is CO_3 ion)" for the purpose of excluding matters stated in the prior art from the scope of claims is permitted.

[…]."

With regard to the abovementioned statements in the Examination Guideline, which explain the cases where an amendment to provide a "disclaimer" can be treated "exceptionally" as being made within the scope of matters stated in the description, etc., the purpose of using the term "exceptionally" can be recognized to clarify that the permitted amendment is "an exception" in relation to the concept prescribed in the abovementioned "Basic concept."

However, in light of the holdings made in A. above, the abovementioned concept based on a presumption that an amendment to provide a "disclaimer" is basically prohibited, is inappropriate. Specifically, even in the case of an amendment in which the matters to be amended are stated with negative expressions as in the case of an amendment to provide a "disclaimer," if the matters to be amended are stated in the description, etc., such amendment can be deemed not to be introducing any new technical matters as in the case of an amendment in which the matters to be amended are stated with positive expressions, unless there are special circumstances. And an amendment in which the matters to be amended are not stated in the description or drawings should not always be deemed to be introducing a new technical matter.

Accordingly, whether or not an amendment to provide a "disclaimer" can be deemed as being made "within the scope of matters" stated in the description, etc. would finally be decided based on the fact of whether or not said amendment introduce new technical matters to the technical matters stated in the original description, according to the holdings stated in A. above. Thus, there is no room to assume any "exceptional" treatments, and the statements concerning "amendment to provide 'disclaimer'" in the Examination Guideline do not conform to the interpretation of the Patent Act to the extent mentioned above, and consequently, the plaintiff's allegation of the same gist is appropriate.

Nevertheless, the Examination Guideline is a criterion prepared with an aim to contribute to securing fairness and rationality of the judgment to be made by the JPO on whether or not a patent application conforms to the requirements for patentability provided for in the Patent Act, and it is obvious that the statements in the Examination Guideline have not been provided with the purpose of prescribing exceptions to the Patent Act itself. Therefore, the portion of the plaintiff's allegation, which is based on the understanding that the abovementioned statements in the Examination Guideline have been made for the purpose of explicitly providing exceptions to the Patent Act, is inappropriate in the first place. Moreover, the statement "if the invention is remarkably different from the prior art as to the technical idea, and inherently involves an inventive step, but accidentally overlaps with the prior art" in "(Note 1)" in the "(Explanation)" above, refers to the case where "an invention becomes patentable by making an amendment in the form of a 'disclaimer,'" but is not a requirement for an amendment to provide a "disclaimer" to be allowed. Thus, the portion of the plaintiff's allegation, which is based on the understanding that the abovementioned statements in the Examination Guideline are requirements for an amendment to provide a "disclaimer" to be exceptionally approved, is also inappropriate.

(3) Regarding the use of trademarks in the statements in the scope of claims and the "restriction of the scope of claims"

A. The proviso to Article 134, paragraph (2) of the Patent Act prior to the revision in 1994 provides that a correction shall be allowed only for the purpose of "restriction of the scope of claims," "the correction of errors," and "the clarification of an ambiguous statement." Therefore, in order to have the relevant correction deemed to be made for the purpose of "restriction of the scope of claims," both the statements of the scope of claims made before and after the correction must be technically clear as a prerequisite for comparing the scope of claims before and after the correction.

As a registered trademark, "TEPIC", is used in the statements of the scope of

claims after the Corrections, it would be questioned whether or not the contents of the Inventions to be specified by the statements in the scope of claims after the Corrections have been technically clarified by the use of such trademark.

B. The Corrections, which include the statements of "(D) a multifunctional epoxy resin ("TEPIC" manufactured by Nissan Chemical Industries, Ltd.; Registered Trademark) which is 'an epoxy compound possessing at least two epoxy groups in the molecular unit thereof,'" have been made to exclude the portion of claims identical to the Prior Invention so as to avoid the patent from being invalidated for being identical to the Prior Invention as held in (2)B. above. Thus the term "TEPIC" as used in the Corrections can be deemed to be referring to the term "TEPIC" stated in the Working Example 2 disclosed in the Prior Description.

Then, the term "TEPIC" used in the Corrections would include every product which may be identified by the registered trademark "TEPIC" as of the filing of the patent application based on the Prior Description, and thus the product identified by the registered trademark "TEPIC" cannot be deemed to be technically unclear to the abovementioned extent.

In general, the products identified by a registered trademark cannot always be regarded as being technically clear. We cannot clearly identify which product, among those generally called "TEPIC," is designated by the term "TEPIC" mentioned in the Corrections. In order to enable third parties who have accessed the statements in the corrected description to understand the content of the inventions stated in the claims, it is basically desirable to clearly indicate in the description that "TEPIC" mentioned in the Corrections refers to the "TEPIC" stated in Working Example 2 disclosed in the Prior Description. In order to provide such a clear indication, it is necessary to correct the detailed explanation of the invention included in the Description, thereby clearly indicating that the statements in the claims have been corrected for the purpose of excluding the invention stated in Working Example 2 disclosed in the Prior Description. Such correction can be deemed to be made for the purpose of clarifying an ambiguous statement in the detailed explanation of the invention upon correcting the statement in the claims. In light of our holding shown in (2)A. above, the Corrections can be deemed not to be introducing any new technical matters, nor can it be regarded as substantially enlarging or altering the scope of claims. However, due to the fact that the JPO, according to the Examination Guideline mentioned above, conventionally treated such correction as not being made "within the scope of the matters stated in the description or drawings," the defendant did not choose to request such correction but rather chose to identify the relevant part of the invention to be excluded by only using the term

"TEPIC" when correcting the claims. Furthermore, as the term "TEPIC" used in the Corrections can be deemed to be referring to the "TEPIC" stated in Working Example 2 disclosed in the Prior Description, the fact that the abovementioned basically desirable approach was not taken cannot serve as the grounds for deeming the Corrections to be unlawful.

C. Article 24 of the Ordinance for Enforcement of the Patent Act prior to the revision by Ordinance of the Ministry of International Trade and Industry No. 41 of 1990 provides that "the description to be attached to a patent application shall be prepared with Form No. 16." As for Form No. 16, it is provided that "a registered trademark may be used only in cases where the product in question cannot be indicated or identified without using the registered trademark; in such cases, it shall be stated in the form that the term in question is a registered trademark." Under the trademark registration system, the correspondence between a registered trademark and the properties and composition of the product identified by the registered trademark is not secured, and a registered trademark cannot always be regarded as being capable of identifying a product definitely or clearly. Therefore, in general, the use of a registered trademark in the statements in a patent description is considered to be allowable only in extremely exceptional cases.

As held in (2)B. above, the Corrections are intended to exclude the relevant parts of the Initial Inventions that are identical to the Cited Inventions, by explaining the contents of the Cited Inventions which are to be excluded, or listing the components contained in Initial Inventions 1 and 2—components (A) to (D) and components (A) to (E), each of which can be chosen from a variety of substances or products, and identifying the relevant components with negative expressions (in the form of a "disclaimer"), while citing the statements on the specific substances or products used in Working Example 2 disclosed in the Prior Description. This seems to be the only way to exclude the relevant parts identical to the Cited Inventions without excesses or deficiencies. Therefore, it cannot be deemed to be in violation of Article 24 of said Ordinance, when making the Corrections, to indicate the parts to be excluded by using the registered trademark "TEPIC," the factor by which the Cited Inventions can be identified.

D. Based on the abovementioned holdings, the use of a registered trademark in the Corrections cannot be deemed to have made the contents of the inventions unclear.

The plaintiff alleges that the Corrections have only excluded some combinations in Initial Inventions, and thus, the Initial Inventions and the Present Inventions are substantially identical, and the Corrections cannot be considered to have been made for

the "restriction" of the scope of claims. This allegation can be recognized to have been made to argue that the Initial Inventions and Prior Inventions are substantially identical on the basis that the parts excluded by the Corrections are limited sufficiently enough to be ignored (even if the parts to be excluded by the correction were limited, the correction shall still be deemed to have been made for the purpose of restricting the scope of claims). Accordingly, the appropriateness of this allegation which is identical to the allegation made in the ground for rescission No. 2 shall be determined in 2. below.

(4) As mentioned in (2) and (3) above, the Corrections are found to be made "within the scope of claims stated in the description or drawings attached to the application" as provided for in the proviso to Article 134, paragraph (2) of the Patent Act prior to the revision in 1994, and for the purpose of "restriction of the scope of claims," and therefore, the JPO Decision which allowed the Corrections is not erroneous and the ground for rescission No. 1 is groundless.

Accordingly, the claimed inventions in question are found to be the inventions as identified as the Present Inventions.

2. Regarding the ground for rescission No. 2 (errors in the determination on the identity of the Present Inventions and Cited Inventions)

(1) The plaintiff alleges that the Corrections only excluded a specific combination of the components from the Initial Inventions by providing a "disclaimer," and thus the Present Inventions and Cited Inventions are common in terms of the technical field, use, and operation and effect, etc. and are based on the same technical idea. The plaintiff further alleges that in addition to the facts that the Present Inventions are inventions comprised components (A) to (D) and components (A) to (E), except for the combinations excluded by the Corrections, and that components (A) to (C) and component (E) are all well known, multifunctional epoxy resins which share the same chemical structure with "TEPIC" but which have different trade names would be included in component (D) (e.g. "ARALDITE PT810"), and thus the Present Inventions should still be deemed to be substantially identical to the Cited Inventions.

Therefore, first, the technical idea of the inventions mentioned above shall be examined.

(2) Regarding the technical idea of the inventions stated in the Prior Description and that of the Present Inventions

A. According to the Japanese Unexamined Patent Publication No. 63-278052 for the Prior Description (Exhibit Ko No. 1), the following statements are found in the Prior Description.

(A) "a photosensitive film composition comprising (a) a reaction product obtained by

reacting an epoxy resin possessing at least two terminal epoxy groups with an unsaturated carboxylic acid possessing one ethylene bond at about 0.7 to 1.5 mol per one epoxy equivalent of said epoxy resin, and then reacting the same with polybasic acid anhydride at 0.2 to 1 mol per one epoxy equivalent of said epoxy resin, (b) an unsaturated compound possessing at least two ethylene bonds and (c) a sensitizer." (scope of claims)

(B) "The present invention relates to a photosensitive film composition, and more particularly relates to a photosensitive epoxy resin film composition which shall be used as a negative type photoresist in which the portion of this composition irradiated with ultraviolet rays is cured and the unexposed portion can be removed by an aqueous alkali solution. In the past, regarding negative type photosensitive film compositions, which may be used as a protective coat of etching resist, plating resist, or solder resist in the formation of printed wiring board, they were comprised of unsaturated compounds possessing an ethylene bond with such epoxy acrylate and a sensitizer, and the unexposed portions were removed by organic solvents. However, the removal (development) of unexposed portions by organic solvents which required a large amount of organic solvents was accompanied by various problems including the risks of environmental pollution and fires, etc. In particular, recently, as one of the issues of environmental pollution, adverse effects to the human body, had gained prominent attention, strenuous efforts have been made in handling them. The object of the present invention is to minimize the abovementioned risks and to provide a photosensitive film composition which is capable of obtaining a coating property excelling in desirable resolution, flexibility, adhesion, chemical resistance and adhesion, and forming a photosensitive film which can be developed by alkali water." (line 15 in the left column to line 16 in the right column on page 1).

(C) "The reaction between the abovementioned epoxy resins, unsaturated carboxylic acid, and polybasic acid shall be made in two stages. With regard to the reaction between the epoxy resin and unsaturated carboxylic acid, first the epoxy resin will be dissolved in advance in the mixture of an inactive organic solvent, unsaturated carboxylic acid and unsaturated compound having an ethylene bond, and a polymerization inhibitor and a catalyst shall be added thereto, which will then be reacted at a temperature in the range of 60 to 120°C until an acid value of less than 20 is obtained and then further reacted for 1 to 4 hours after the addition of a given amount of polybasic acid. The unsaturated compound having at least two ethylene bonds must be reacted after being exposed to ultraviolet rays, and thus, it must contain a terminal ethylene group, and the composition shall be used in an amount sufficient to

be exposed to light at a desired level." (line 10 in the lower right column on page 2 to line 3 in the upper left column on page 3).

(D) "The inactive organic solvent to be used in the inventions shall be used at the time of causing the epoxy resin to react with an unsaturated carboxylic acid. Specifically, there are two ways of causing the reaction between a solid epoxy resin and an unsaturated carboxylic acid at ambient temperature: (i) to cause the solid epoxy resin to react with an unsaturated carboxylic acid after dissolving said solid epoxy resin by the unsaturated compound having an ethylene bond mentioned before; or (ii) to cause the solid epoxy resin to react with an unsaturated carboxylic acid after dissolving said solid epoxy resin by an organic solvent. The former method is used when the use of volatile organic solvent in the composition is not desired, and the latter, when the use of large amount of unsaturated compounds possessing at least two ethylene bonds is not desired. These methods must be employed to realize uniform reaction between the epoxy resin, unsaturated carboxylic compound, and polybasic acid anhydride at low viscosity. […]." (line 16 in the upper right column to line 10 in the lower left column on page 3).

(E) With regard to the photoresist composition in the inventions, 3 to 50 % by weight or preferably 5 to 30 % by weight of the abovementioned epoxy resin and 0.1 to 10 % by weight or preferably 0.1 to 5 % by weight of the epoxy curing agent may be used to have the resist layer withstand soldering temperature and used as a permanent protective coating." (lines 5 to 10 in the upper right column on page 4).

B. According to the statements in the Prior Description as found in A. above, the following findings may be made for the inventions stated in said Description.

The inventions stated in the Prior Description relate to a photosensitive epoxy resin film composition which shall be used as a negative type photoresist. With the necessity to avoid to the extent possible the problem of using a large amount of organic solvents for removal (development) of the unexposed portion, which may cause environmental pollution and fires, etc., the inventions aim to provide a photosensitive film composition which is capable of forming a photosensitive film which can be developed by alkali water, while ensuring the properties required of this kind of film composition: that is to achieve a coating property excelling in desirable resolution, flexibility, adhesion, chemical resistance and adhesion (as mentioned in A.(B)above).

In the inventions stated in the Prior Description, the epoxy resin, which is a reaction product contained in the photosensitive coating composition, is used by being caused to react with an unsaturated carboxylic acid and polybasic acid in order, and there are two ways to react the epoxy resin with the unsaturated carboxylic acid: (i) to cause the solid epoxy resin to react with an unsaturated carboxylic acid after dissolving

said solid epoxy resin by the unsaturated compound possessing an ethylene bond mentioned before; or (ii) to cause the solid epoxy resin to react with an unsaturated carboxylic acid after dissolving said solid epoxy resin by an organic solvent. Furthermore, an epoxy resin may be used to have the resist layer withstand soldering temperature and used as a permanent protective coating (as mentioned in A.(A), (C), (D), and (E) above).

C. Statements in the description for the Patent after the Corrections

According to the Patent Publication (Exhibit Otsu No. 1), statement of the amendment of proceedings (Exhibit Otsu No. 2), and the description pertaining to the correction attached to the written request for a trial for correction (Exhibit Ko No. 11) for the Patent, the following statements are found in the description for the Patent after the Corrections (hereinafter referred to as the "Corrected Description"). Note that, the identification of the places where the statements have been made is based on the places where the relevant statements have been made in the patent publication for the Patent (hereinafter, all of the findings made with regard to the statements in the Corrected Description are based on Exhibits Otsu No. 1 and No. 2 and Exhibit Ko No. 11, and the identification of the places where the statements have been made is made by the same method).

(A) "[Description of the prior art and the problems to be solved by the invention] A solder resist is a substance which is used during the soldering of a given part to a printed circuit board for the purpose of preventing molten solder from adhering to irrelevant portions and protecting circuits. It is, therefore, required to possess such properties as high adhesion, insulation resistance, resistance to soldering temperature, resistance to solvents, resistance to alkalis, resistance to acids, and resistance to plating." (lines 2 to 8 in paragraph 8 on page 4).

(B) "The solder resist in the early stage, […], displayed deficiency in resistance to soldering temperature, resistance to chemicals, and resistance to plating. For use in the production of industrial-use printed circuit boards, epoxy-based thermosetting type solder resists have been disclosed […], as improved versions of the early solder resist mentioned above. At present, they are prevailing over those of other types. For use in the production of consumer-use printed circuit boards, since productivity is the dominant consideration, such rapid-setting ultraviolet setting type solder resists […] are prevailing now. The ultraviolet setting type solder resists, however, cannot be used in the production of industrial-use printed circuit boards because they pose a problem concerning the setting property in the bottom of a thick film and display deficiency in resistance to soldering temperature. These solder resists rely on the screen printing

method for the formation of a solder resist pattern. In the formation of solder resist pattern which is expected to follow the recent trend of the industry toward the increased density of integration in the printed circuit board and the adoption of the practice of mounting component parts on the surface of a printed circuit board associated with the trend concerning electronic equipment and devices toward reduction in weight and volume, the ultraviolet curing type solder resists are disadvantageous in staining a pattern by bleeding and in embedding between circuits and, therefore are no longer capable of fulfilling the function expected of a solder resist film. For the solution of these problems, dry film-type photo-solder resists and liquid photo-solder resists have been developed. […]. When such dry film-type photo-solder resists are used in high-density printed circuit boards, however, they are deficient in resistance to soldering temperature and in adhesion." (lines 9 to 37 in paragraph 8 on page 4).

(C) "A liquid photo-solder resist […] is deficient in adhesion to a printed circuit board, resistance to soldering temperature, and insulation resistance. As a version which pays due consideration to the thermosetting property in question, a solder resist ink-quality resin composition comprising the reaction product of a phenol-novolak type epoxy resin and an unsaturated monobasic acid, the partial reaction product of a cresol-novolak type epoxy resin and an unsaturated monobasic acid, an organic solvent, a photopolymerization initiator, and an amine type curing agent is disclosed […]. This composition is intended to additionally utilize the phenomenon of thermal setting by allowing an epoxy group to remain in the molecular unit. Since this retention of the epoxy group results in a partial decrease of the photosensitive group, the composition suffers from a decline in the ability to cure itself upon exposure to ultraviolet light. And because the composition does not permit ample retention of the epoxy group, it is incapable of exhibiting the fully satisfactory properties expected of a solder resist." (line 38 in paragraph 8 on page 4 to line 7 in paragraph 9 on page 5).

(D) "As versions which involve additional use of an epoxy resin, a photosensitive composition comprising an unsaturated compound containing two terminal ethylene groups, a polymerization initiator, a compound containing at least two epoxy groups, and a compound containing at least two carboxyl groups is disclosed […], and an ink composition comprising a resin curable with an activated energy ray obtained by causing the reaction product of a novolak type epoxy compound and an unsaturated monocarboxylic acid to react with the reaction product of a diisocyanate and a polyfunctional (meth) acrylate containing one hydroxyl group in the molecular unit thereof, a photoinitiator, and an organic solvent, in addition to an epoxy resin, is disclosed […]. While […], the former composition is inferior in resistance to soldering

temperature and resistance to solvents […]. These compositions are both of such quality that when their epoxy resin contents are increased, their photosetting property or so called sensitivity is degraded and their resistance in the exposed portion thereof to the action of a developing solution tends to decline even to a point where they can no longer endure protracted development and tend to induce incomplete development of an unexposed portion." (lines 8 to 26 in paragraph 9 on page 5).

(E) "A resist ink composition comprising a photosetting resin obtained by causing saturated or unsaturated polybasic acid anhydride to react with the reaction product of a novolak type epoxy compound and an unsaturated monocarboxylic acid, a photoinitiator, and a diluent, in addition to an epoxy resin, is disclosed […]. This composition requires the use of an aqueous alkali solution as its developing solution. Therefore, if the content of epoxy resin possessing no solubility in the aqueous alkali solution is increased, the composition similarly suffers from the degradation of its sensitivity and decline of the solubility of the unexposed portion in the developing solution to a point where the unexposed portion remains undeveloped and the development is required to be performed for an unduly long time and the exposed portion is corroded by the developing solution." (lines 27 to 36 in paragraph 9 on page 5).

(F) "An object of the inventions is to provide a photosensitive thermosetting resin composition which suffers from none of the various drawbacks mentioned above, excels in both developing property and sensitivity, enables an exposed portion thereof to withstand the developing solution, and enjoys a long pot life. Another object of the inventions is to provide a photosensitive thermosetting resin composition, which is capable of producing a cured coating excelling in adhesion, insulation resistance, resistance to electrolytic corrosion, resistance to soldering temperature, resistance to solvents, resistance to alkalis, resistance to acids, and resistance to plating, which are required of solder resists, besides the highly desirable properties mentioned above, and which fits the production of consumer-use printed circuit boards and industrial-use printed circuit boards, and a method for the formation of a solder resist pattern by the use of said resin composition." (lines 37 to 47 in paragraph 9 on page 5).

(G) "[Working of the invention] In the case of solder resist quality photosensitive thermosetting resin compositions using an epoxy resin as a thermosetting component in combination with a photosensitive prepolymer, it has been customary to employ an epoxy resin soluble in an organic solvent. When a photosensitive thermosetting resin composition is prepared by using an epoxy resin of this kind, it is presumed that the epoxy resin is dissolved therein in a state intertwined with the photosensitive prepolymer (with the chain-length portions of the resins held in intertwined state). As a

result, when the unexposed portion is developed by any exposure, for example, when a composition using a photosensitive prepolymer soluble in an aqueous alkali solution is developed with an aqueous alkali solution, since the epoxy resin is generally insoluble in an aqueous alkali solution and it is held in a state intertwined with the photosensitive prepolymer, the photosensitive prepolymer in the unexposed portion suffers from loss of solubility. Further, since the epoxy resin is dissolved in the solvent, the epoxy resin reacts unduly rapidly with the curing agent and thereby induces the so called heat fogging, a phenomenon where an incomplete development occurs during the courses of development. Therefore, the composition acquires an inferior developing property. When a composition using a photosensitive prepolymer soluble in the organic solvent to be used for development is developed with an organic solvent, the composition tends to induce the same heat fogging and suffer from a decline of developing property due to the solubility of the epoxy resin in the solvent. Further in the exposed portion, the coating tends to be corroded and suffers from impairment of sensitivity because the photosensitive prepolymer permits no enhancement of cross-linking density owing to the presence of the epoxy resin and its solution in the developing solution (organic solvent). In both said cases, the shelf life of the photosensitive thermosetting resin composition becomes shorter, since the reaction of the epoxy resin with the curing agent is rapid as mentioned above. When the composition using a water-soluble epoxy resin is developed with an aqueous alkali solution, since the epoxy resin is soluble in the developing solution, the exposed portion tends to be corroded by the developing solution (aqueous alkali solution) and suffers from impairment of sensitivity." (line 26 in paragraph 11 to line 6 in paragraph 12 on page 6).

(H) "[…], when the composition uses a finely powdered epoxy compound (resin) sparingly soluble in the diluent used in the composition as in the case of the composition of the present inventions, the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy compound. When the composition using a photosensitive prepolymer soluble in an aqueous alkali solution is developed with an aqueous alkali solution, since the epoxy compound does not impair the solubility of the photosensitive prepolymer and further since the epoxy compound is sparingly soluble in the diluent to be used, the composition exhibits low reactivity with the curing agent for epoxy resin and does not easily induce the phenomenon of heat fogging and enjoys a satisfactory developing property. When a composition using a photosensitive prepolymer soluble in the organic solvent to be used for development, the organic solvent as a diluent, and a finely powdered epoxy compound sparingly soluble in the organic solvent, is developed with the organic solvent mentioned above, the exposed portion is not easily corroded by

the developing solution (organic solvent) and induces no decline of sensitivity. The developing property of the unexposed portion is satisfactory because the epoxy compound is in the form of a fine particle and, therefore, is incapable of lowering the solubility of the photosensitive prepolymer and unlikely to induce the phenomenon of heat fogging. Furthermore, in both said cases, the shelf life of the composition becomes longer, since the reactivity of the epoxy compound with the curing agent is low because the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy compound as mentioned above." (lines 7 to 28 in paragraph 12 on page 6).

(I) "[…], the salient feature of the photosensitive thermosetting resin composition of the present inventions resides in the fact that a "finely powdered" epoxy compound "sparingly soluble" in the diluent "to be used" is employed as a thermosetting component. The finely powdered (fine particulate) epoxy compound which is an essential component is sparingly soluble in the diluent to be used and is intended to be used as dispersed in the finely powdered form, i.e. in the same manner as a filler. The composition, therefore, is hardly corroded by the developing solution nor entails any decline of sensitivity. Further, since the finely powdered epoxy compound in the unexposed portion is washed away by the developing solution during the course of the development, the composition so excels in developing property as to be developed in a shorter time. The subsequent application of heat makes the epoxy compound melt and thermoset by itself or copolymerizes it with the photosensitive prepolymer. As a result, a solder resist pattern for a printed circuit board possessing various highly desirable properties can be produced. As it is plain from the description of the function given above, the term "sparingly soluble" as used in the present description refers to the concept of exhibiting not only the insolubility in the diluent to be used but also the meager solubility capable of manifesting the function described above." (lines 29 to 45 in paragraph 12 on page 6).

D. According to the statements in the Corrected Description found in C. above, the following facts may be found for the Present Inventions.

A solder resist is a substance which is used during the soldering of a given part to a printed circuit board for the purpose of preventing molten solder from adhering to irrelevant portions and protecting circuits. It is, therefore, required to possess such properties as high adhesion, insulation resistance, resistance to soldering temperature, resistance to solvents, resistance to alkalis, resistance to acids, and resistance to plating. (as found in C.(A) above)

Conventional solder resists not only displayed deficiency in adhesion, resistance to chemicals, resistance to plating, setting property in the bottom of a thick film,

resistance to soldering temperature, but also had problems in embedding between circuits and bleeding. In particular, a liquid photo-solder resist that corresponds to the increased density of integration in the printed circuit board is deficient in the thermosetting property (i.e. adhesion, resistance to soldering temperature, and insulation resistance) (as found in C.(B) and (C) above)

As a version which pays due consideration to the thermosetting property, there was a solder resist ink-quality resin composition that intended to use an epoxy resin and additionally utilize the phenomenon of thermal setting by allowing an epoxy group to remain in the molecular unit. However, since this retention of the epoxy group results in a partial decrease of the photosensitive group, the composition suffered from a decline in the ability to cure itself upon exposure to the ultraviolet light, and further, the resistance in the exposed portion to the action of a developing solution tends to decline even to a point where they no longer endure protracted development and tends to induce incomplete development of an unexposed portion (as found in C.(C) and (D) above).

There was also a resist ink composition using an epoxy resin and requiring the use of an aqueous alkali solution as its developing solution. Yet, if the content of epoxy resin possessing no solubility in the aqueous alkali solution was increased, problems occurred such as that the composition similarly suffered from the degradation of its sensitivity, the unexposed portion remained undeveloped or the development was required to be performed for an unduly long time and the exposed portion was corroded by the developing solution (as found in C.(E) above).

The object of the Present Inventions is to provide a photosensitive thermosetting resin composition which suffers from none of the various drawbacks mentioned above, excels in both developing property and sensitivity, enables an exposed portion thereof to withstand the developing solution, enjoys a long pot life, and is further equipped with the general properties required of solder resists (as found in C. (F) above).

In the case of solder resist quality photosensitive thermosetting resin compositions using an epoxy resin as a thermosetting component in combination with a photosensitive prepolymer, an epoxy resin soluble in an organic solvent had generally been used. In this case, it is presumed that the epoxy resin is dissolved therein in a state intertwined with the photosensitive prepolymer. When the composition is developed with an aqueous alkali solution, for example, since the epoxy resin is generally insoluble in an aqueous alkali solution, the photosensitive prepolymer intertwined with the epoxy resin suffers from loss of solubility. Further, since the epoxy resin is dissolved in the organic solvent used at the stage of generation of the resin

composition, the epoxy resin reacts unduly rapidly and thereby induces an incomplete development. When an organic solvent is used as the developing solution, the epoxy resin is dissolved in the organic solvent used at the stage of generation, and reacts rapidly with the curing agent and thus the composition suffers from a decline of developing property, and further, the coating tends to be corroded and suffers from impairment of sensitivity because the epoxy resin is dissolved into the developing solution (organic solvent) in the exposed portion (as found in C. (G) above).

However, the salient feature of the Present Inventions resides in the fact that a finely powdered epoxy compound (the same as "epoxy resin") sparingly soluble in the diluent to be used is employed as a thermosetting component. When the composition uses a finely powdered epoxy compound sparingly soluble in the diluent used in the composition as in the case of the composition of the present inventions, the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy compound, and thus the solubility of the photosensitive prepolymer is not impaired. Further, since the epoxy compound is sparingly soluble in the diluent to be used, the composition exhibits low reactivity between the epoxy resin and the curing agent and does not lower the developing property. As a result, the exposed portion is not easily corroded by the developing solution and the shelf life of the composition becomes longer (as found in C.(H) and (I) above).

E. According to the findings made in B. and D. above, the inventions stated in the Prior Description and the Present Inventions are common in that they are all resin compositions to be used as solder resists and share the same technical filed to be used.

On the other hand, while the inventions stated in the Prior Description aim to provide a photosensitive coating composition which is capable of being developed by alkali water based on the problems found in the organic solvent used as the developing solution in the past, the Present Inventions are aimed at providing a photosensitive thermosetting resin composition which excels both in developing property and sensitivity, enables an exposed portion thereof to withstand the developing solution, enjoys a long pot life, and which also avoids the problems found in the conventional solder resists in either cases where an organic solution or aqueous alkali solution is used as the developing solution. Further, the feature of the Present Inventions resides in the fact that a finely powdered epoxy resin sparingly soluble in the diluent is used as the thermosetting component to achieve such object. However, the feature of the Present Inventions, which is to use a "finely powdered epoxy resin sparingly soluble in the diluent," has not been disclosed in the Prior Description at all. Rather, in the statements which serve as the basis for the constitutional feature of the inventions

stated in the Prior Description, the process to cause the epoxy resin in said inventions, after the "dissolution" thereof, to react with an unsaturated carboxylic acid is described as a prerequisite. Nevertheless, according to the statements in the Corrected Description as found in C.(I) above, the term "sparingly soluble" in the Present Inventions is found to be used as a concept including the "meager solubility" to a certain extent, and therefore, the "dissolution" of the epoxy resin itself does not conflict with the statements in the Corrected Description. Yet, at least no statement is found in the Prior Description that designate the element of being "sparingly soluble" as a necessary constitution of the inventions.

Then, there is no choice but to consider that the inventions stated in the Prior Description and Present Inventions differ in terms of the problems to be solved, and the constitution and working of the inventions, as the means to solve such problems, and thus these inventions are based on different technical ideas.

(3) As stated in (2) above, the inventions stated in the Prior Description and the Present Inventions are based on different technical ideas. Further, the statements in the Prior Description other than the part disclosing Working Example 2 cannot be deemed to have disclosed any inventions substantially identical to the Present Inventions, and therefore the Present Inventions and the inventions stated in the Prior Description are not substantially identical.

Accordingly, the patent for the Present Inventions cannot be considered to have been granted in violation of the provision of Article 29-2 of the Patent Act prior to the revision in 1994, and thus the determination made in the JPO Decision is not erroneous, and the ground for rescission No.2 is groundless.

3. Regarding the ground for rescission No. 3 (errors in the determinations on the difference between Present Invention 1 and Invention Based on Exhibit Ko No. 3)

(1) In this regard, the plaintiff alleges as follows: In Working Example 4 disclosed in Exhibit Ko No.3, "EPICLON EXA-1514" is stated as one of the possible options for bisphenol S type epoxy resin, and in Exhibit Ko No.3, N-glycidl type epoxy resin and bisphenol S type epoxy resin are listed in the same category. This N-glycidl type epoxy resin and heterocyclic epoxy resin mentioned as one of the alternatives for component (D) of Present Invention 1 are names of components that indicate the same chemical constitution from different viewpoints, and there are compounds such as triglycidl isocyanurate that correspond to both components. Therefore, Present Invention 1 is nothing but an invention that used triglycidl isocyanurate, which can be used in the same manner as bisphenol S type epoxy resin and is publicly known as N-glycidl type epoxy resin, in place of the bisphenol S type epoxy resin used in the photosensitive

thermosetting epoxy resin composition in Working Example 4 disclosed in Exhibit Ko No. 3. Consequently, inventions of such kind could have easily been invented by a person skilled in the art based on the Invention Based on Exhibit Ko No. 3. This court will examine this allegation in the following parts.

(2) In addition to the matters found in the JPO Decision (summary of matters (1) through (11), over which there are no disputes between the parties), the following statements are found in Exhibit Ko No. 3.

A. "When conventional techniques, such as the screen printing method […] are used, in many cases, a phenomenon of bleeding, blurring or dripping at the time of printing occurred, and thus, serious difficulties have been faced in coping with the recent high-density printed circuit boards. To solve these problems, dry-film type photo resists and liquid photo resists have been developed. Yet, dry-film type photo resists tend to generate bubbles at the time of thermocompression and are inferior in resistance to heat and adhesion. […]. Meanwhile, liquid resists which are now on the market use organic solvents as their developing solution, and thus involve the problem of air pollution, […], and further involve concerns related to resistance to solvents and resistance to acids." (lines 2 to 19 in the upper left column on page 2).

B. "Problems to be solved by the inventions. […], the object of the present inventions is to provide a liquid resist ink composition which suffers from none of the abovementioned drawbacks, excels in photosetting property, adhesion, solidity, resistance to solvents and resistance to acids, and is capable of being developed by dilute aqueous alkali solution. Especially, the object of the present inventions is to provide a liquid resist ink composition which is capable of being developed by diluent aqueous alkali solutions, and which is in particular suitable for production of consumer-use printed circuit boards and industrial-use printed circuit boards, by achieving a cured coating possessing various properties such as electric property, resistance to heat and resistance to plating, in addition to the abovementioned highly desirable properties." (lines 1 to 13 in the upper right column on page 2).

At the same time, it is found that in Exhibit Ko No. 3, "bisphenol S type epoxy resin" and "N-glycidl type epoxy resin" are listed in the same category as the possible alternatives for an "epoxy compound containing at least two epoxy groups in the molecular unit thereof," which is a component to be additionally mixed in as appropriate in the Invention Based on Exhibit Ko No. 3 (summary of matter (9) in the JPO Decision), and that a photosensitive thermosetting resin composition containing "EPICLON EXA-1514," which is a "bisphenol S type epoxy resin," is stated as Working Example 4 (summary of matter (10) in the JPO Decision), and the plaintiff has made

the allegations mentioned in (1) above based on the such statements.

(3) Exhibit Ko No. 3, in the first place, has no statements on the use of an epoxy resin which is in a "finely powdered form and sparingly soluble in the diluent to be used." According to the statements in (2) above, the object of the Invention Based on Exhibit Ko No. 3 is to provide a liquid resist ink composition, which excels in general properties required of resist ink compositions, especially in resistance to heat and resistance to solvents, etc., and which is capable of being developed by dilute aqueous alkali solutions (The defendant, who is the applicant of the Patent, is also the applicant of the patent for the invention stated in Exhibit Ko No. 3. In the Corrected Description, the resist ink composition as stated in Exhibit Ko No. 3 has been stated as one of the prior arts, with the following problems: As said resist ink composition requires the use of an aqueous alkali solution as its developing solution, if the content of epoxy resin possessing no solubility in the aqueous alkali solution is increased, the composition similarly suffers from the degradation of its sensitivity and decline of its solubility of the unexposed portion in the developing solution to a point where the unexposed portion remains undeveloped, the development is required to be performed for an unduly long time and the exposed portion is corroded by the developing solution (lines 26 to 36 in paragraph 9 on page 5).

Meanwhile, as found in 2(2)D. and E. above, the object of Present Invention 1 is to provide a photosensitive thermosetting resin composition which excels both in developing property and sensitivity, enables an exposed portion thereof to withstand the developing solution, and enjoys a long pot life. Moreover, as mentioned in 2(2)D. (and in 2(2)C.(G)), Present Invention 1 acknowledges the following problems as its technical problems: On the basis that when a photosensitive thermosetting resin compositions uses an epoxy resin as a thermosetting component in combination with a photosensitive prepolymer, it has been customary to employ an epoxy resin soluble in an organic solvent, and it is presumed that the epoxy resin is dissolved therein in a state intertwined with the photosensitive prepolymer, if the composition is developed by an aqueous alkali solution, since the epoxy resin is generally insoluble in an aqueous alkali solution, the photosensitive prepolymer intertwined with the epoxy resin suffers from loss of solubility. Further, since the epoxy resin is dissolved in the organic solvent used at the stage of generating the resin composition, the epoxy resin reacts unduly rapidly with the curing agent and thereby induces an incomplete development. Meanwhile, based on the same conditions, when an organic solvent is used as the developing solution, the epoxy resin is dissolved in the solvent and reacts rapidly with the curing agent, which results in lowering developing property. Further

in the exposed portion, the coating tends to be corroded and suffers from impairment of sensitivity because the epoxy resin dissolves into the developing solution (When the composition using a water-soluble epoxy resin is developed with an aqueous alkali solution, since the epoxy resin is soluble in the developing solution, the exposed portion tends to be corroded by the developing solution and suffers from impairment of sensitivity). Further, as mentioned in 2(2)D. (and 2(2)C,(H) and (I)), Present Invention 1 achieves the following effects in both cases where either an organic solvent or aqueous alkali solution is used as the developing solution by adopting the means for solving the problems, i.e. to employ a finely powdered epoxy compound (the same as "epoxy resin") sparingly soluble in the diluent to be used as the thermosetting component: As a result of employing a finely powdered epoxy compound sparingly soluble in the diluent to be used, the photosensitive prepolymer assumes a state of enveloping the particles of the epoxy resin, and thus the solubility of the photosensitive prepolymer would not be impaired. Moreover, the developing property also would not be impaired as the reactivity of the epoxy resin with the curing agent is low, and further the exposed portion is not easily corroded by the developing solution and the shelf life of the composition becomes longer. Then, Present Invention 1 is completely different from the Invention Based on Exhibit Ko No. 3 from the viewpoint of the problems recognized, and thus should be considered to have adopted a different means for solving the problems in connection thereto.

Accordingly, the Invention Based on Exhibit Ko No. 3 differs from Present Invention 1 in terms of the object of the invention, and what is more, we should determine that Exhibit Ko No. 3 does not provide any suggestion on the technical problem to be solved by Present Invention 1 and the means for solving it. As alleged by the plaintiff, "N-glycidl type epoxy resin" (Invention Based on Exhibit Ko No. 3) and "heterocyclic epoxy resin" (Present Invention 1) are names of ingredients that indicate the same chemical constitution from different viewpoints, and there is a publicly known compound that corresponds to both components, tryglycidl isocyanurate. However, this fact cannot be the grounds for concluding that a person skilled in the art who has accessed the statements in Exhibit Ko No. 3 would have recognized the essence of the technical problem to be solved by Present Invention 1 and easily conceived of, as the means for solving the technical problem, the composition corresponding to the difference between Present Invention 1 and the Invention Based on Exhibit Ko No. 3 (the composition using a compound that is "in a finely powdered form and sparingly soluble in the diluent to be used" as an epoxy compound of component (D)).

Based on the abovementioned findings, it should be deemed that a person skilled in the art could not have easily conceived of Present Invention 1 based on the Invention Based on Exhibit Ko No. 3. Moreover, the Patent has not been granted in violation of Article 29, paragraph (2) of the Patent Act prior to the revision by Act No. 41 of 1999 for which it was provided that the provisions then in force shall remain applicable pursuant to Article 2, paragraph (12) of the Supplementary Provisions of said Act (hereinafter the phrase starting from "prior to" shall simply be referred to as "prior to the revision in 1999"), and therefore, there are no errors in the determinations made in the JPO Decision, and the ground for rescission No. 3 is groundless.

4. Regarding the ground for rescission No. 4 (errors in the determinations on "incomplete inventions")

(1) The following allegations made by the plaintiff shall be examined below: As there are 60 alternatives (or 450 alternatives or 720 alternatives) for the combination of component (A) and component (D) of Present Invention 1, it is impossible to presume that the inventions were completed for all of such alternatives by just the three Working Examples disclosed in the Corrected Description, and thus, Present Invention 1 includes parts which are yet to be completed and is a incomplete invention in its entirety.

(2) As alleged by the plaintiff, the Corrected Description can be found to have provided 12 alternatives in total comprising 4 alternatives for group (a), 6 alternatives for group (b) and 2 alternatives for group (c) of component (A) of Present Invention 1. Moreover, the Corrected Description is found to have listed the abovementioned alternatives following the statement of "The photosensitive prepolymer (A) possessing at least two ethylenically unsaturated bonds in the molecular unit thereof as mentioned above may be, for example, (a) a reaction product (a-1-1) obtained by causing a saturated or unsaturated polybasic acid anhydride to react with the secondary hydroxyl group of a complete esterification product produced by the esterification reaction of a complete esterification product (a-1) of a novolak type epoxy compound and an unsaturated monocarboxylic acid" (line 49 in paragraph 12 on page 6 to line 5 in paragraph 13 on page 7), and listed a number of names of products or publicly known substances as a specific example of each alternative(line 46 in paragraph 13 on page 7 to line 39 in paragraph 15 on page 8).

According to the abovementioned statements in the Corrected Description, the "photosensitive prepolymer possessing at least two ethylenically unsaturated bonds in the molecular unit thereof," which was in the public domain, has been separately prescribed for each starting substance, intermediate product and reaction product, in

component (A) of Present Invention 1. As these substances can be considered to be a group of chemicals from their characteristics, each substance belonging to component (A) may be assumed to perform the same functions as a photosensitive prepolymer.

At the same time, the Corrected Description is found to contain the following statement: "Then, as the finely powdered epoxy compound (D) possessing at least two epoxy groups in the molecular unit thereof, any of the epoxy compounds publicly known and commonly used can be employed. This epoxy compound, however, is required to be capable of being dispersed in a finely powdered form in the photosensitive prepolymer (A) possessing at least two ethylenically unsaturated bonds in the molecular unit thereof and is further required to assume a solid or semisolid state at ambient temperature. It is also required, at the time of kneading, to avoid dissolving in the photosensitive prepolymer (A) mentioned above and the diluent (C) to be used and/or manifest solubility of the degree productive of no adverse effects upon photosensitivity and developing property. As desirable examples of the epoxy compound satisfying all these requirements, […]; diglycidl phthalates […]; hetrocyclic epoxy resins represented by the product of Nissan Chemical Industries, Ltd. marketed under the registered trademark designation of "TEPIC" and that of Ciba-Geigy K.K., marketed under the registered trademark designation of "ARALDITE PT810"; bixylenol type epoxy resins […]; biphenol type epoxy resins […]; and tetraglycidl xylenoyl ethane resins […]." (lines 8 to 28 in paragraph 19 on page 10). According to this statement and the content of Present Invention 1, component (D) of Present Invention 1 is found to have five alternatives, either of which is "a finely powdered epoxy compound possessing at least two epoxy groups in the molecular unit thereof," is sparingly soluble in the diluent to be used, and assumes a solid or semi-solid state at ambient temperature.

Then, the five substances mentioned as the alternatives for component (D) can be deemed to be a group of chemicals possessing the abovementioned characteristics, and thus it may be assumed they achieve the same effect, which is the object of Present Invention 1, even if they were substituted for each other.

(3) Furthermore, it is found that the Corrected Description contains (i) Working Examples 3 to 6, where typical substances for components (A) and (D) have been mixed, as corresponding to Present Invention 1 (line 48 in paragraph 25 on page 13 to line 44 in paragraph 27 on page 14); and (ii) specific test results and effects of the properties, such as photosensitivity and developing property, for each working example (line 42 in paragraph 28 on page 14 to line 48 in paragraph 32 on page 16, and table 1).

The plaintiff alleges that Working Example 6 disclosed in the Corrected Description cannot be considered to be a working example of Present Invention 1. Yet, as a

composition containing "5.0 parts of finely powdered biphenol type epoxy resin (product of Yuka Shell Epoxy Kabushiki Kaisha marketed under the registered trademark designation of 'EPIKOTE YL-6056')" is stated in Working Example 6, and such epoxy resin corresponds to component (D) of Present Invention 1, Working Example 6 is clearly a working example of Present Invention 1.

(4) Based on the abovementioned findings, Present Invention 1 achieves the advantageous effect stated in the Corrected Description by combining the components specified in its description and referring to the statements included in the description such as the working examples. Accordingly, Present Invention 1 cannot be deemed to be an incomplete invention, and thus the Patent has not been granted in violation of the main clause of Article 29, paragraph (1) of the Patent Act prior to the revision in 1999, and thus the allegation(s) made by the plaintiff is unacceptable.

In addition, the plaintiff, in relation to this point, alleges that the characteristic group which characterizes the physical properties of the resins included in each group for component (A) widely varies and that the physical properties of the resist pattern differ in the case where a resin is used singly or in combination with other resin(s). However, as found in 2(2)D. and E. above, the salient feature of Present Invention 1 resides in the fact that "a finely powdered epoxy compound exhibiting sparing solubility in the diluent to be used is employed as a thermosetting component" in the photosensitive resin composition comprising a photosensitive prepolymer of component (A), and thus the advantageous effects in the developing property and other properties found at the tests for each working examples as mentioned in (3) above can be deemed to be owing to component (D). Accordingly, such allegation made by the plaintiff does not affect the abovementioned holding.

Therefore, the ground for rescission No. 4 is groundless.

5. Regarding the ground for rescission No. 5 (errors in the determinations on "insufficient statements")

(1) The plaintiff is recognized to have made the following allegations: The detailed explanation of the inventions included in the Corrected Description has not satisfied the requirements provided for in Article 36, paragraph (3) of the Patent Act prior to the revision by Act No. 30 of 1990 for which it was provided that the provisions then in force shall remain applicable pursuant to Article 9 of the Supplementary Provisions of said Act (Article 2, paragraph (1) of the Supplementary Provisions of the Order for Enforcement of the Act on Special Provisions for Procedures related to Industrial Property Right) (hereinafter the phrase starting from "prior to" shall simply be referred to as the "prior to the revision in 1990"). And further, the scope of claims which stated

matters related to the specific embodiment of the inventions that was not clearly stated in the detailed explanation of the inventions has not satisfied the requirements provided for in Article 36, paragraph (4) of the Patent Act prior to the revision by Act No. 27 of 1987 for which it was provided that the provisions then in force shall remain applicable pursuant to Article 3, paragraph (1) of the Supplementary Provisions of said Act (hereinafter the phrase starting from "prior to" shall simply be referred to as the "prior to the revision in 1987").

(2) However, as this court has held in 4. above, the Corrected Description has disclosed working examples where the advantageous effect of Present Invention 1 can be confirmed and each alternative for components (A) to (D) may be assumed to achieve the same advantageous effect as a photosensitive thermosetting resin composition.

Moreover, the Corrected Description has not only stated in a specific manner the combination of components (A) to (D) in the working examples, but also listed specific names of products and substances for components (A) to (D). Thus, to obtain a photosensitive thermosetting resin composition of Present Invention 1 by a combination different from those disclosed in the working examples should not require a person skilled in the art to carry out excessive trial and error.

Accordingly, no insufficient statements in violation of Article 36, paragraph (3) of the Patent Act prior to the revision in 1990 can be found in the Corrected Description, and thus, the allegation of the plaintiff arguing insufficient statements in violation of Article 36, paragraph (4) of the Patent Act prior to the revision in 1987 lacks prerequisite, and is unreasonable.

Therefore, the ground for rescission No. 5 is groundless.

6. Regarding the ground for rescission No. 6 (errors in the determinations on Present Invention 2)

As found in 3. to 5. above, the grounds for rescission No. 3 to No. 5 regarding Present Invention 1 are groundless. Present Invention 2, which pertains to the process of forming a solder resist pattern, differs from Present Invention 1 only in that component (E) would be further contained in the resin composition and corresponds to Present Invention 1 in that it contains components (A) to (D). Moreover, according to the statements in the Corrected Description (line 19 in paragraph 21 to line 11 in paragraph 22 on page 11), publicly known and commonly used curing agents can be used as the "curing agent for epoxy resins" of component (E).

Therefore, the allegation of the plaintiff arguing the determination made in the JPO Decision regarding Present Invention 2 to be erroneous for the same reasons as provided for in the grounds for rescission No. 3 to No. 5 is unreasonable.

Accordingly, the ground for rescission No. 6 is groundless.

No. 6 Conclusion

Based on the abovementioned holdings, all of the grounds for rescission of the JPO Decision as alleged by the plaintiff are groundless, and therefore the plaintiff's claims should be dismissed and the judgment shall be rendered in the form of the main text.

Intellectual Property High Court, Special Division

Presiding judge: TSUKAHARA Tomokatsu

Judge: NAKANO Tetsuhiro

Judge: IIMURA Toshiaki

Judge: TANAKA Nobuyoshi

Judge: MORISHITA Hiroki