Patent Right	Date	November 10, 2020	Court	Intellectual Property High Court, First Division
	Case number	2020 (Gyo-Ke) 10005		
- A case in which, with regard to a patent application concerning an invention titled "WOOD PULP FOR GLASS PLATE-INTERLEAVING PAPER AND INTERLEAVING PAPER FOR GLASS PLATES", it was determined that according to the statement of the description, etc. of a prior application, an invention of the prior application was configured to the extent that any person having ordinary knowledge and experience in the art can repeatedly work the created technical content to achieve an intended technical effect, and thus, the invention of the prior application falls under the "invention" as referred to in Article 29-2 of the Patent Act and cannot be deemed to be incomplete, and therefore, the invention of the prior application has an effect of excluding a later application which is identical to the invention of the prior application pursuant to Article 29-2 of the Patent Act.				

Case type: Rescission of Appeal Decision of Refusal

Result: Dismissed

References: Article 29-2 and Article 184-13 of the Patent Act

Related rights, etc.: Appeal against Examiner's Decision of Refusal No. 2018-17153, Patent Application No. 2014-554542

Summary of the Judgment

1. The present case is a lawsuit for rescission of an appeal decision of refusal, in which the Examiner made a decision of refusal with regard to the Plaintiff's patent application concerning an invention titled "WOOD PULP FOR GLASS PLATE-INTERLEAVING PAPER AND INTERLEAVING PAPER FOR GLASS PLATES", and then, the Plaintiff filed a request for an appeal against the Examiner's decision of refusal, but an appeal decision of refusal was made in the appeal, and therefore, the Plaintiff sought the rescission of the appeal decision of refusal.

Reasons for rescission are erroneous determinations of Article 29-2 of the Patent Act based on the invention of the prior application. The Plaintiff principally asserted that the appeal decision overlooked that the invention of the prior application is not yet completed as an invention.

2. The present judgment, in summary, held as follows and dismissed the Plaintiff's claim.

(1) Present Invention 1 is identical to the invention of the prior application.

(2) Plaintiff's principal assertion (Overlooking that the invention of the prior application is not yet completed as an invention)

A. Article 29-2 of the Patent Act, with which Article 184-13 of the Patent Act is deemed to be replaced, provides that if an invention claimed in a patent application is identical to an invention or a device stated in the description or the drawings (the description, etc. of a prior application) originally attached to the written application for another patent application or utility model registration which was filed prior to the date of the relevant patent application, with regard to which an issue of the gazette in which the patent appears or the bulletin in which the utility model appears was published subsequent to the filing of the relevant patent application, a person may not obtain a patent for the invention.

The purpose of this Article is as follows. An invention stated in the description, etc. of the prior application, even if the invention is stated other than in the scope of claims, is laid open to the public in a publication, etc. of the prior application. Thus, even if a later application is filed before the publication, etc. of the prior application, when the invention of the later application is identical to the invention of the prior application, no new technology is laid open to the public in the publication, etc. of the later application. Therefore, granting a patent to such invention is inappropriate from the viewpoint of the purpose of the patent system which intends to protect an invention as a reward for laying a new invention open to the public.

In view of this purpose, the "invention" stated in the description, etc. of the prior application as referred to in this Article is construed as an invention which is understood from a matter stated in the description, etc. of the prior application and from a matter equivalent to that stated in the description, etc. of the prior application. The "matter equivalent to that stated" means a matter which can be derived from the stated matter by taking into consideration the common general technical knowledge at the time of filing.

Thus, even if there is no particular statement in the description, etc. of the prior application, the invention of the prior application can be found taking into consideration the common general technical knowledge of a person ordinarily skilled in the art in order to understand the invention of the prior application. On the other hand, in the case where an invention lacks concreteness, or technical content of an invention is insufficiently disclosed even taking into consideration the common general technical knowledge of a person ordinarily skilled in the art, such invention does not fall under the "invention" mentioned above, and does not have an effect of excluding the later application provided for in this Article. Further, created technical content which is not configured to the extent that any person having ordinary knowledge and experience in the art can repeatedly work the technical content to

achieve an intended technical effect is not yet completed as the "invention" and it should not be deemed that such technical content falls under the "invention" as referred to in Article 29-2 of the Patent Act.

B. According to the statement of the description of Exhibit Ko 1, it can be understood that: the invention of the prior application, in which the contained amount of an organosilicon compound which is silicone, polydimethylsiloxane, in the glass-interleaving paper is set to 3 ppm or less, preferably 1 ppm or less and 0.05 ppm or more, can significantly reduce defects in wiring, etc. due to the organosilicon compound which is transferred from the glass-interleaving paper to a glass plate, and in particular, can prevent polydimethylsiloxane from being transferred to a glass plate and easily causing the occurrence of defects in wiring, electrodes, etc., and thus achieves the intended effect of the invention of the prior application; and such glass-interleaving paper can be produced by using pulp produced without using a polydimethylsiloxane-containing defoamer as a raw material, and by washing the pulp, washing paper by showering, washing using a water tank, or by two or more of these methods in the production process of glass-interleaving paper.

Then, it should be deemed that the invention of the prior application was configured to the extent that any person having ordinary knowledge and experience in the art can repeatedly work the created technical content to achieve the intended technical effect.

C. Thus, the invention of the prior application falls under the "invention" as referred to in Article 29-2 of the Patent Act and cannot be deemed to be incomplete. Therefore, the invention of the prior application has an effect of excluding the later application which is identical to the invention of the prior application pursuant to Article 29-2 of the Patent Act.

Judgment rendered on November 10, 2020
2020 (Gyo-Ke) 10005 A case of seeking rescission of the JPO decision
Date of conclusion of oral argument: September 29, 2020

Judgment

Plaintiff: Tokushu Tokai Paper Co., Ltd.

Defendant: Commissioner of the Japan Patent Office

Main Text

1. The Plaintiff's claim shall be dismissed.
2. The Plaintiff shall bear the court costs.

Facts and reasons

No. 1 Claim

The decision made by the JPO on December 4, 2019 for the case of Appeal against Examiner's Decision of Refusal No. 2018-17153 shall be rescinded.

No. 2 Outline of the case

1. History, etc. of procedures at the JPO

(1) The Plaintiff filed a patent application with regard to the invention titled "WOOD PULP FOR GLASS PLATE-INTERLEAVING PAPER AND INTERLEAVING PAPER FOR GLASS PLATES" on December 26, 2013 (Patent Application No. 2014-554542, Priority claim: December 27, 2012, Japan; and April 18, 2013, Japan, Number of claims: 15) (Exhibit Ko 2-3). However, the Plaintiff received the Examiner's decision of refusal on September 28, 2018 (Exhibit Ko 6).

(2) The Plaintiff filed a request for an appeal against this decision on December 25, 2018 (Exhibit Ko 7). The JPO examined the above-mentioned request as the case of Appeal against Examiner's Decision of Refusal No. 2018-17153.

The Plaintiff amended the scope of claims by a written amendment dated October 25, 2019 (Exhibit Ko 10, Number of claims: 7, hereinafter referred to as "the Present Amendment").

(3) On December 4, 2019, the JPO made a decision that the request for the

appeal is dismissed, as stated in the written appeal decision (copy) as shown in Attachment (hereinafter referred to as "the Present Appeal Decision"). A certified copy of the Present Appeal Decision was served on the Plaintiff on December 16, 2019.

(4) The Plaintiff instituted an action of the present case for seeking a rescission of the present appeal decision on January 15, 2020.

2. Statement of the scope of claims

The statement of Claim 1 in the scope of claims after making the Present Amendment, to which the Present Appeal Decision is directed, is as follows (Exhibit Ko 10).

Hereinafter, the invention according to Claim 1 will be referred to as "Present Invention 1." Further, the description of the Present Patent Application (Exhibit Ko 2-3) as well as the drawings will be collectively referred to as "the Present Description."

[Claim 1]

Interleaving paper for glass plates, which is produced from wood pulp as a raw material, wherein an amount of silicone contained in the paper is 0.5 ppm or less relative to absolute dry mass of the paper.

3. Summary of reasons of the Present Appeal Decision

(1) Reasons of the Present Appeal Decision are as stated in the written appeal decision (copy) as shown in the Attachment. In summary, Present Invention 1 is identical to the invention disclosed in Cited Document 1 mentioned below (hereinafter referred to as "the Invention of the Prior Application") and thus, a person may not obtain a patent for the invention pursuant to the provision of Article 29-2 of the Patent Act with which the provision of Article 184-13 of the Patent Act is deemed to be replaced.

Cited Document 1: Japanese Patent Application No. 2012-280085 (Exhibit Ko 1-1. Filing date: December 21, 2012. Application pertaining to priority claim of PCT/JP2013/083992 (International publication date: June 26, 2014). Hereinafter, the description, the scope of claims, or the drawings which were originally attached to the written application will be referred to as "the description of Exhibit Ko 1.")

(2) The Invention of the Prior Application as well as the common feature and different features between Present Invention 1 and the Invention of the Prior Application as found in the Present Appeal Decision is as follows. It should be noted that "/" in the text below indicates a line break in the original text.

A. Invention of the Prior Application

Glass-interleaving paper, in which glass refers to a glass plate for FPDs such as a glass plate for liquid crystal displays, is inserted between laminated glass plates and separates the surfaces of the adjacent glass plates from each other in order to prevent flaws and contamination on the surfaces of the glass plates, and / because an organosilicon compound which is transferred from glass-interleaving paper to a glass plate is a major cause of defects in wiring, etc., the occurrence, etc. of defects in wiring due to an organosilicon compound can be reduced by providing glass-interleaving paper in which the contained amount of an organosilicon compound is 3 ppm or less, and the contained amount of an organosilicon compound is more preferably 1 ppm or less, and the smaller the contained amount of an organosilicon compound, the more preferable, and there is no limitation on the lower limit of the contained amount of an organosilicon compound, but it is difficult to completely remove an organosilicon compound from glass-interleaving paper, and thus, it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small, and therefore, the contained amount of an organosilicon compound is preferably 0.05 ppm or more, and / the organosilicon compound is silicone, polydimethylsiloxane.

B. Common feature with Present Invention 1

Interleaving paper for glass plates, which is produced from pulp as a raw material.

C. Different features from Present Invention 1

(A) Different Feature 1

The pulp of the "interleaving paper for glass plates" of Present Invention 1 is "wood pulp," whereas it is not specified whether the pulp of the glass-interleaving paper of the Invention of the Prior Application is "wood pulp."

(B) Different Feature 2

In Present Invention 1, "the amount of silicone contained in the paper is 0.5 ppm or less relative to the absolute dry mass of the paper," whereas, in the Invention of the Prior Application, "the contained amount of an organosilicon compound is more preferably 1 ppm or less, and the smaller the contained amount of an organosilicon compound, the more preferable, and there is no limitation on the lower limit of the contained amount of an organosilicon compound, but it is difficult to completely remove an organosilicon compound from glass-interleaving paper, and thus, it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small, and therefore, the contained amount of an organosilicon compound is preferably 0.05 ppm or more."

4. Reasons for rescission

Erroneous determinations of Article 29-2 of the Patent Act based on the Invention of the Prior Application

(1) Overlooking that the Invention of the Prior Application is not yet completed as an invention (Principal assertion)

(2) Erroneous findings of the Invention of the Prior Application (Alternative Assertion 1)

(3) Erroneous determinations of Different Feature 2 (Alternative Assertion 2)

(omitted)

No. 4 Judgment of the court

1. Present Invention 1

(1) Statement of the Present Description

The statement of the Present Description (Exhibit Ko 2-3) is as follows.

A. Technical field and background art

[0001] The present invention relates to paper for packaging glass plates and to paper to be inserted between glass plates in the process of storing and transporting multiple glass plates for flat panel displays such as liquid crystal displays, plasma displays, and organic electroluminescence (organic EL) displays in a laminated state. In addition, the present invention also relates to wood pulp for use in producing the paper mentioned above.

[0002] In general, during the process of storing multiple glass plates for flat panel displays in a laminated state, or during the process of transporting and distributing such glass plates by trucks, etc., paper which is called interleaving paper is inserted between the glass plates in order to prevent the occurrence of abrasions when the glass plates come into contact with each other on impact, or to prevent contamination of the surfaces of the glass plates.

[0003] A glass plate for flat panel displays is used for high-definition displays, as compared to a glass plate for common architectural windows, a glass plate for vehicular windows, and the like. For this reason, the surface of glass for flat panel displays is required to maintain a clean surface with minimal impurities contained on the surface of paper and to have superior flatness for fast response and expanded viewing angle.

[0004] Some types of interleaving paper for use in such applications, including interleaving paper which can prevent glass plates from cracking or damaging a surface and interleaving paper which does not contaminate the surface of a glass plate, have

already been proposed. For example, Patent Document 1 discloses a method of forming a fluorine coating film on the surface of interleaving paper. In addition, Patent Document 2 discloses interleaving paper to which a foamed sheet made of a polyethylene-based resin and a film made of a polyethylene-based resin are bonded. Patent Document 3 discloses interleaving paper for glass, which is made from pulp containing 50% by mass or more of bleached chemical pulp and which contains a specific alkylene oxide adduct and a water-soluble polyether-modified silicone. Further, Patent Document 4 discloses glass plate-interleaving paper in which a resin content in the paper is specified and a raw material selected in view of contamination of the surface of glass is used.

[0006] However, such interleaving paper does not completely prevent contamination of the surface of a glass plate for flat panel displays. In some cases, a defect rate of glass plates may be actually increased due to contamination of the surface of the glass plates for some reason.

[0007] In particular, recently, in view of profitability, an increased yield is required in the production process of flat panel displays, etc., and preventing contamination of the surfaces of glass plates used for flat panel displays is important.

B. Problem

[0008] The present invention addresses the problem of providing interleaving paper which can remarkably prevent contamination on the surface of glass for a glass plate used as substrate materials for flat panel displays for which a high degree of cleanliness and flawlessness are required, as well as providing wood pulp for such interleaving paper.

C. Means for solving the problem

[0009] For example, it is known that if the surface of a glass plate is contaminated at the time of producing a color filter substrate in an array step which is one of the steps in the production process of TFT liquid crystal displays, a problem such as disconnection occurs. This is because a color filter substrate is produced by forming a thin film such as a semiconductor film, an ITO film (a transparent conductive film), an insulating film, and an aluminum metal film on a glass plate by means of sputtering, vacuum deposition, and the like, and if a contaminant exists on the surface of a glass plate, disconnection occurs in a circuit pattern formed from a thin film, or a short circuit caused by defects in an insulating film occurs. In addition, during the production of a color filter substrate, a pattern is formed on a glass plate by means of photolithography, and if a contaminant exists on the surface of a glass plate at the time of resist application in this step, a pinhole occurs on the

resist film after exposure or development, and as a result, disconnection or a short circuit occurs. Similar problems are confirmed in the production of organic EL displays as well. An organic EL display is produced by forming a thin film such as an ITO positive electrode, an organic emitting layer, and a negative electrode on a glass plate by means of sputtering, vapor deposition, printing, and the like. For this reason, if foreign matter inhibiting a thin film exists on the surface of a glass substrate, a problem of becoming non-luminescent occurs. It has been difficult to specify a cause of such contamination of a glass plate. However, it was first revealed through verification performed by the present inventors that the cause is silicone contained in interleaving paper for glass plates.

[0010] Therefore, the present inventors found that the problems mentioned above can be solved by setting the amount of silicone contained in wood pulp which is used in the production of interleaving paper for glass plates (hereinafter, also referred to as "glass plate-interleaving paper") to a specified amount or less, and setting the amount of silicone contained in interleaving paper for glass plates to a specified amount or less, thus completing the present invention.

[0016] A second aspect of the present invention relates to interleaving paper for glass plates, which is produced from wood pulp as a raw material, and in which the amount of silicone contained in the paper is 0.5 ppm or less relative to the absolute dry mass of the paper.

[0017] The amount of silicone contained in the interleaving paper for glass plates is preferably 0.1 ppm or less relative to the absolute dry mass of the paper.

[0018] The silicone mentioned above is preferably a silicone oil.

[0019] The silicone oil mentioned above is preferably dimethylpolysiloxane.

D. Effects

[0023] ... the interleaving paper for glass plates of the present invention can inhibit or avoid the transfer of silicone to a glass plate. In this way, by inhibiting or avoiding the transfer of silicone to a glass plate, circuit disconnection of color films etc. can be prevented in the production process of TFT liquid crystal displays, etc.

E. Mode for carrying out the invention

[0024] When interleaving paper is used for glass plates, silicone contained in interleaving paper tends to be transferred to the glass plates. In particular, it has been clarified at present that if interleaving paper made from wood pulp in which the contained amount of silicone exceeds 0.5 ppm, or interleaving paper in which the amount of silicone contained in the paper exceeds 0.5 ppm is used for glass plates, the amount of silicone transferred to the glass plates increases remarkably and as a result,

this causes the problem at the time of forming a panel. Therefore, in the wood pulp for glass plate-interleaving paper of the present invention, the amount of silicone contained in the wood pulp is 0.5 ppm or less relative to the absolute dry mass of the wood pulp. Thereby, the amount of silicone contained in glass plate-interleaving paper made from the wood pulp of the present invention can be set to 0.5 ppm or less. In addition, the interleaving paper for glass plates of the present invention is interleaving paper for glass plates, which is made from wood pulp, and the amount of silicone contained in the paper is 0.5 ppm or less relative to the absolute dry mass of the paper. It should be noted that the term "absolute dry" in the present invention means a state in which moisture does not substantially exist in an object to be dried due to drying. For example, a weight change of an object per hour at room temperature (25°C) in an "absolute dry" state is 1% or less, preferably 0.5% or less, and more preferably 0.1% or less.

[0025] In general, silicone is contained in wood pulp in many cases. This is because a silicone-based defoamer is frequently used as a defoamer used in order to prevent the reduction of washing ability due to the generation of foam in the production process of wood pulp, particularly in a washing step. The silicone derived from this silicone-based defoamer remains in pulp. A silicone-based defoamer is produced by, for example, mixing modified silicone, a surfactant, and the like with a mixture of silicone oil and hydrophobic silica.

[0026] Therefore, in order to set the amount of silicone contained in the glass-interleaving paper to 0.5 ppm or less, it is particularly important that wood pulp as a raw material for the interleaving paper does not contain a large amount of silicone. In a first aspect of the present invention, although means for setting the amount of silicone contained in wood pulp as a raw material for the interleaving paper to 0.5 ppm or less is not particularly limited, a non-silicone-based defoamer is preferably used as a defoamer used during the production of wood pulp.

[0044] In the present invention, the amount of silicone contained in the wood pulp or in the glass plate-interleaving paper made from the wood pulp mentioned above is preferably 0.4 ppm or less, more preferably 0.3 ppm or less, even more preferably 0.2 ppm or less, and particularly preferably 0.1 ppm or less, relative to the absolute dry mass of the wood pulp or the interleaving paper. This is because if silicone exists in an amount exceeding 0.1 ppm, in a situation where very high-definition displays such as mobile terminals are necessary, a disconnected portion of a color film due to a trace amount of silicone which has been transferred to glass becomes highly visible because of its high definition, and therefore, increases the

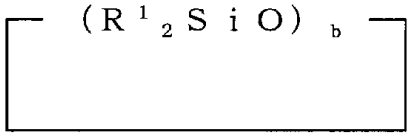
possibility that the display may be judged to be poor in quality.

[0046] Examples of the silicone in the present invention include silicone oil. Silicone oil is hydrophobic, and the molecular structure thereof may be in any of a cyclic form, a linear form, and a branched form. A kinematic viscosity of silicone oil at 25°C usually ranges from 0.65 to 100,000 mm^2/s, and may range from 0.65 to 10,000 mm^2/s.

[0047] Examples of silicone oil include linear organopolysiloxane, cyclic organopolysiloxane, and branched organopolysiloxane.

[0048] Examples of linear organopolysiloxane, cyclic organopolysiloxane, and branched organopolysiloxane include organopolysiloxanes represented by the following general formulae (1), (2), and (3):

$R^1_3SiO\text{-}(R^1_2SiO)_a\text{-}SiR^1_3$ (1)



(2)

$R^1_{(4-c)}Si(OSiR^1_3)_c$ (3)

(wherein: each R^1 is independently a hydrogen atom, a hydroxyl group, or a group selected from a substituted or unsubstituted monovalent hydrocarbon group and a group represented by an alkoxy group;

a is an integer ranging from 0 to 1,000; b is an integer ranging from 3 to 100; and c is an integer ranging from 1 to 4, and is preferably an integer ranging from 2 to 4).

[0049] The substituted or unsubstituted monovalent hydrocarbon group is typically a monovalent saturated hydrocarbon group having 1 to 30 carbon atoms, preferably having 1 to 10 carbon atoms, and more preferably having 1 to 4 carbon atoms, which is substituted or unsubstituted; a monovalent unsaturated hydrocarbon group having 2 to 30 carbon atoms, preferably having 2 to 10 carbon atoms, and more preferably having 2 to 6 carbon atoms, which is substituted or unsubstituted; and a monovalent aromatic hydrocarbon group having 6 to 30 carbon atoms and more preferably having 6 to 12 carbon atoms.

[0050] Examples of the monovalent saturated hydrocarbon group having 1 to 30 carbon atoms include a linear or branched alkyl group such as a methyl group, an ethyl group, an n-propyl group, an isopropyl group, an n-butyl group, an isobutyl group, a sec-butyl group, a tert-butyl group, a pentyl group, a hexyl group, a heptyl group, an octyl group, a nonyl group, and a decyl group, as well as a cycloalkyl group

such as a cyclopentyl group, a cyclohexyl group, a cycloheptyl group, and a cyclooctyl group.

[0058] As the silicone oil in the present invention, dimethylpolysiloxane, diethylpolysiloxane, methylphenylpolysiloxane, a polydimethyl-polydiphenylsiloxane copolymer, polymethyl-3,3,3-trifluoropropylsiloxane, and the like are preferable. As the silicone in the present invention, dimethylpolysiloxane is typical.

F. Examples

[0071] (1) Quantitative measurement of silicone

Interleaving paper was cut into about 1 cm square, and subjected to Soxhlet extraction with hexane for about 3.5 hours. The obtained extract was condensed by means of a rotary evaporator and redissolved in 1 mL of deuterated chloroform to carry out ^{1}H-NMR measurement. For this quantitative determination, an absolute calibration method was used to create a calibration curve using a deuterated chloroform solution of polydimethylsiloxane as a reference standard to perform the quantitative determination. As an NMR device, AVANCE 500 model (manufactured by Bruker BioSpin Co., Ltd.) was used.

[0072] (2) Transfer test to glass (Transportation test)

Urethane foam was placed on a glass placing surface on a 75 degrees-angled L-shaped mount frame made of aluminum. 120 glass plates, each of which has a size of 680 mm × 880 mm × 0.7 mm, and glass plate-interleaving paper inserted between each of the glass plates were placed against the placing surface for vertically placing glass plates and a backrest surface which vertically extends from a rear end part of the placing surface, so that the glass plates were placed parallel to the backrest surface. The glass plates were fixed thereon by putting a strip-shaped belt, which was fixed to the mount frame, along the whole periphery from the rear end part to the backrest surface. The mount frame to which the glass plates had been set as mentioned above was completely covered with a packaging material in order to prevent contamination of dust, dirt, and the like from the outside. Subsequently, a transportation test by a truck was performed. The test was performed under transportation test conditions of a transportation distance of 1,000 km (stored for five days under an environment of 40°C × 95% RH in the course of the transportation). Thereafter, the presence or absence of silicone on the surfaces of the glass plates was checked by means of FT-IR analysis.

[0073] [Production of wood pulp]

In an apparatus for producing bleached softwood kraft pulp, comprising a digesting step, a washing step, an oxygen delignification reaction step, and a

multistage bleaching step with chlorine dioxide and hydrogen peroxide, an appropriate amount of undiluted mineral oil-based defoamer "Pronal A5044" (manufactured by TOHO Chemical Industry Co., Ltd.), which was a non-silicone-based defoamer, was continuously added as a defoamer used for a washing solution of a drum washer immediately after knots were removed after the digesting step. In addition, an appropriate amount of "Pronal A5044," which was the same as mentioned above, was added as a defoamer to be added to a wash press in a press washing step. As mentioned above, bleached softwood kraft pulp A was obtained using the non-silicone-based defoamer during the production process.

[0074] Further, bleached softwood kraft pulp B was obtained in the same manner as mentioned above, with the exception of using "SN defoamer 551K" (manufactured by SAN NOPCO Limited) which was a silicone-based defoamer as a defoamer.

[0075] [Example 1]

As wood pulp, bleached softwood kraft pulp A in the amount of 100 parts by mass was provided, and disaggregated to prepare a slurry having a beating degree of 520 ml c.s.f. To the slurry, polyacrylamide (product name: Polystron 1250, manufactured by Arakawa Chemical Industries, Ltd.) was added as a paper strengthening agent in the amount of 0.4 parts by mass relative to the total pulp mass, to thereby prepare a pulp slurry with a concentration of 0.4%. The prepared pulp slurry was subjected to papermaking by means of a Fourdrinier paper machine, to thereby obtain glass plate-interleaving paper having a basis weight of 50 g/m^2.

[0076] [Example 2]

Glass plate-interleaving paper having a basis weight of 50 g/m^2 was obtained in the same manner as that of Example 1, with the exception of using a mixture of 80 parts by mass of bleached softwood kraft pulp A and 20 parts by mass of bleached softwood kraft pulp B as wood pulp.

[0077] [Comparative Example 1]

Glass plate-interleaving paper having a basis weight of 50 g/m^2 was obtained in the same manner as in Example 1, with the exception of using 100 parts by mass of bleached softwood kraft pulp B as wood pulp.

[0078] The amount of silicone contained in the glass plate-interleaving paper obtained in each of the Examples and the Comparative Example is shown in Table 1. The amount of silicone contained in the glass plate-interleaving paper also indicates the amount of silicone contained in the wood pulp used in the production of the interleaving paper mentioned above.

[Table 1]

	Contained amount of silicone (ppm)
Example 1	< 0.01
Example 2	0.4
Comparative Example 1	2.0

[0079] As a result of checking the transfer of the glass plate-interleaving paper obtained in each of the Examples and the Comparative Example to the glass plates in the transportation test, silicone was not detected on the surfaces of the glass plates using the interleaving paper of Example 1 at all. On the surfaces of the glass plates using the interleaving paper of Example 2, a slight amount of silicone was confirmed. However, when arrays of liquid crystal panels were formed using the glass plates mentioned above, no disconnection of any color films was observed. In contrast thereto, on the surfaces of the glass plates using the interleaving paper of Comparative Example 1, contamination due to silicone was confirmed. When arrays of liquid crystal panels were formed using the glass plates mentioned above, disconnection of color films was observed.

[0080] From the results mentioned above, it can be seen that since the amount of silicone contained in the wood pulp of the present invention is 0.5 ppm or less relative to the absolute dry mass of the wood pulp, the glass plate-interleaving paper of the present invention made from the wood pulp of the present invention also contains silicone only in the amount of 0.5 ppm or less, and therefore, it is possible to prevent the transfer of silicone from the above-mentioned glass plate-interleaving paper to a glass plate, and as a result, it is possible to produce a glass plate which is preferable for array formation of liquid crystal panels.

(2) Features of Present Invention 1

A. Present Invention 1 relates to paper which is called interleaving paper, which is inserted between glass plates in order to prevent the occurrence of abrasions when the glass plates come into contact with each other on impact or to prevent contamination of the surfaces of the glass plates during the processes of storing and transporting multiple glass plates for flat panel displays in a laminated state.

Glass plates for flat panel displays are used for high-definition displays. For this reason, the surface of glass for flat panel displays is required to maintain a clean surface with minimal impurities contained on the surface of paper, and to have superior flatness for fast response and expanded viewing angle. However, interleaving paper which has been conventionally proposed does not completely

prevent contamination of the surface of a glass plate for flat panel displays. Thus, in view of profitability, preventing such contamination is important. ([0001] to [0007])

B. Present Invention 1 addresses the problem of providing interleaving paper which can remarkably prevent contamination on the surface of glass for a glass plate used as substrate materials for flat panel displays for which a high degree of cleanliness and flawlessness are required. ([0008])

C. Through verification performed by the inventors of Present Invention 1, it was revealed that the cause of such contamination on the surface of a glass plate is silicone contained in interleaving paper for glass plates. The inventors mentioned above found that the problems mentioned above can be solved by setting the amount of silicone contained in interleaving paper for glass plates to a specified amount or less, thus completing the Present Invention 1. ([0009], [0010])

D. The interleaving paper for glass plates of Present Invention 1 can inhibit or avoid the transfer of silicone to a glass plate. Thereby, circuit disconnection of color films, etc. can be prevented in the production process of TFT liquid crystal displays, etc. ([0023])

E. The interleaving paper for glass plates of Present Invention 1 is made from wood pulp, in which the amount of silicone contained in the paper is 0.5 ppm or less relative to the absolute dry mass of the paper. In order to set the amount of silicone contained in the glass plate-interleaving paper to 0.5 ppm or less, it is particularly important that wood pulp as a raw material for the interleaving paper does not contain a large amount of silicone. As a defoamer used during the production of wood pulp, a non-silicone-based defoamer is preferably used. Examples of the silicone in Present Invention 1 include silicone oil, and dimethylpolysiloxane is typical. ([0024] to [0026], [0046], [0058])

2. Reasons for rescission (Erroneous determinations of Article 29-2 of the Patent Act based on the Invention of the Prior Application)

(1) Statement of the description of Exhibit Ko 1 (Exhibit Ko 1-1. The drawings are as shown in the Attachment)

A. Technical field and background art

[0001] The present invention relates to glass-interleaving paper and to a glass plate packaging body using this glass-interleaving paper.

[0002] A glass plate for a glass plate for construction, a glass plate for automobiles, and a glass plate for FPDs (Flat Panel Displays) such as a glass plate for plasma displays and a glass plate for liquid crystal displays are likely to cause defects in products, because the surface of the glass plate is damaged or contaminated with

foreign matter, etc. during storage and transportation.

In particular, even the existence of a slight flaw or contamination on the surface of a glass plate (a glass substrate) for FPDs will cause defects such as disconnection, etc., because elements such as fine electric wiring (hereinafter also referred to as wiring), electrodes, electric circuits, and partitions are formed on the surface of the glass plate. Therefore, a glass plate used in such an application is required to have high cleanliness of its surface.

[0005] ... As a method of preventing flaws and contamination on the surface of a glass plate, a method of interposing so-called glass-interleaving paper has been conventionally used, in which the glass-interleaving paper is inserted between laminated glass plates and separates the surfaces of adjacent glass plates from each other.

[0009] ... However, when such glass-interleaving paper is used to laminate glass plates, such as glass plates for FPDs, in which elements such as wiring and electrodes are formed on the surface, it is difficult for the glass-interleaving paper to sufficiently inhibit the occurrence of defects in fine wiring, electrodes, electrical circuits, and the like due to contamination which is transferred from the glass-interleaving paper.

B. Problem

[0010] An object of the present invention is to solve the problem of the conventional art mentioned above, and to provide glass-interleaving paper which, when elements such as wiring and electrodes are formed on the surface of a glass plate, can significantly inhibit the occurrence of defects in wiring, etc. which are caused by contamination due to the transfer from glass-interleaving paper, and to provide a glass plate packaging body using this glass-interleaving paper.

C. Means for Solving the Problem

[0011] To achieve the object mentioned above, the glass-interleaving paper of the present invention provides glass-laminated paper which is interposed between glass plates when multiple glass plates are laminated, and in which the contained amount of an organic compound having a silicon element is 3 ppm or less.

[0012] Examples of the above-mentioned organic compound contained in such glass-interleaving paper of the present invention include silicone.

D. Effects

[0015] According to the glass-interleaving paper of the present invention, when fine wiring, electrodes, and the like are formed on the surfaces of laminated glass plates between which the glass-interleaving paper is interposed, defects due to an

organic compound containing a silicon element, which is transferred from the glass-interleaving paper, can be significantly inhibited. Therefore, by using the glass-interleaving paper of the present invention, the yield can be improved and the production cost of FPDs, etc. can be reduced.

E. Mode for carrying out the invention

[0019] ... The glass-interleaving paper of the present invention is glass-interleaving paper in which the contained amount of an organic compound having a silicon element (the ratio of mass of an organic compound having a silicon element relative to mass of the glass-interleaving paper) is 3 ppm or less.

By having such configuration, the glass-interleaving paper of the present invention can significantly reduce defects, etc. which occur in wiring and electrodes when elements such as wiring, electrodes, electric circuits, and partitions are formed on the surfaces of glass plates for FPDs, etc. which are laminated using this glass-interleaving paper.

[0020] As mentioned above, with regard to inhibiting contamination which is transferred from glass-interleaving paper to a glass plate, various proposals have been made in the past.

However, according to the investigation by the present inventors, in a glass plate, such as a glass plate for FPDs, of which elements such as wiring and electrodes are formed on the surface, even if contamination which is transferred from glass-interleaving paper to a glass plate is inhibited, defects in wiring, etc. occur with a not low probability when wiring, electrodes, and the like are formed on the surface of the glass plate.

[0021] The present inventors have diligently investigated this cause. As a result, the present inventors have found that an organic compound having a silicon element (hereinafter also referred to as an organosilicon compound), which is transferred from glass-interleaving paper to a glass plate, is a major cause of defects in wiring, etc.

[0022] As is well known, in the production of paper pulp which is a raw material for glass-interleaving paper, various chemicals such as digestion aids, scale inhibitors, deinking agents, defoamers, surfactants, and bleaching agents are used as needed in various steps such as a digestion step and a bleaching step in the production of chemical pulp, and a deinking step in the production of recycled paper pulp. Also, in a papermaking step of glass-interleaving paper, various chemicals such as washing agents, emulsifiers, and dispersants as additive conditioners are used as needed to wash the parts with which glass-interleaving paper (wet paper/paper) comes into

contact. Among these chemicals, not a few chemicals contain an organosilicon compound.

Usually, these chemicals used in steps of producing pulp or glass-interleaving paper are removed by washing. However, because most of organosilicon compounds have a certain degree of viscosity, such organosilicon compounds are difficult to remove completely and remain in the produced glass-interleaving paper.

Therefore, when glass plates are laminated with glass-interleaving paper interposed, an organosilicon compound which remains in the glass-interleaving paper is transferred to the glass plates and becomes foreign matter.

[0023] On the other hand, in recent years, the spatial resolution, etc. of FPDs have been increasing, and as a result, wiring and electrodes which are formed on glass plates have also become finer. For example, in the case of wiring, wiring with a width of about 3 to 5 μm is required to be formed at an interval (a pitch) of about 50 to 200 μm.

[0024] However, according to the investigation by the present inventors, when such fine wiring, etc. is formed, even the existence of a slight amount of an organosilicon compound on the surface of a glass plate becomes an obstructive factor for the formation of a metal thin film (a metal compound thin film) for wiring, patterning by etching, etc. In addition, in liquid crystal displays, even the existence of a slight amount of an organosilicon compound on the surface of a glass plate can cause unevenness in black matrices of color filters.

Therefore, when an organosilicon compound is transferred from glass-interleaving paper to a glass plate, the transferred organosilicon compound becomes foreign matter, which is a major cause of the occurrence of defects in the formation of elements such as wiring and electrodes, and color filters, etc. on the glass plate.

Among these, when silicone (polysiloxane having organic functional groups (organopolysiloxane)), which is often contained in defoamers, is transferred to a glass plate, defects, etc. in wiring and electrodes are likely to occur. Among silicones, in particular when polydimethylsiloxane is transferred to a glass plate, defects, etc. in wiring and electrodes are more likely to occur.

[0025] As a result of further investigation, the present inventors found that the occurrence of defects, etc. in wiring due to an organosilicon compound which is transferred from glass-interleaving paper to a glass plate can be significantly reduced by setting the contained amount of an organosilicon compound in the glass-interleaving paper to 3 ppm or less.

That is, by using the glass-interleaving paper of the present invention, when

elements such as fine wiring, electrodes, electric circuits, and partitions as well as black matrices, etc. of color filters are formed on the surface of a glass plate, the occurrence of element defects such as wiring disconnection as well as unevenness of the black matrices due to an organosilicon compound can be significantly inhibited without advanced cleaning to remove foreign matter composed of the organosilicon compound on the surface of the glass plate for FPDs, etc. Therefore, by using the glass-interleaving paper of the present invention, the production cost of FPDs, etc. can be reduced and the yield can be improved.

[0026] As mentioned above, the glass-interleaving paper of the present invention is glass-interleaving paper in which the contained amount of an organosilicon compound is 3 ppm or less.

When the contained amount of an organosilicon compound exceeds 3 ppm, it is impossible to sufficiently inhibit the transfer of the organosilicon compound from the glass-interleaving paper to a glass plate, and it is impossible to sufficiently obtain the effect of reducing the occurrence of defects in wiring, etc. due to the organosilicon compound which is transferred from the glass-interleaving paper to the glass plate.

[0027] In the glass-interleaving paper of the present invention, the contained amount of an organosilicon compound is preferably 2 ppm or less, and more preferably 1 ppm or less.

By setting the amount of an organosilicon compound contained in the glass-interleaving paper to this amount, it is possible to more preferably inhibit defects which occur when wiring, electrodes, and the like are formed on the surface of a glass plate for FPDs, etc. using the glass-interleaving paper of the present invention.

[0028] In the glass-interleaving paper of the present invention, the smaller the contained amount of an organosilicon compound, the more preferable. That is, in the glass-interleaving paper of the present invention, no limitation is imposed on the lower limit of the contained amount of an organosilicon compound.

However, it is difficult to completely remove an organosilicon compound from glass-interleaving paper. Thus, it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small. Taking this point into consideration, in the glass-interleaving paper of the present invention, the contained amount of an organosilicon compound is preferably 0.05 ppm or more.

[0029] The glass-interleaving paper of the present invention is basically known glass-interleaving paper used for laminating glass plates, except that the contained amount of an organosilicon compound is 3 ppm or less.

[0030] Therefore, for the glass-interleaving paper of the present invention, there can be used known glass-interleaving paper produced from various raw materials such as: chemical pulp such as kraft pulp (KP) ...; semichemical pulp such as semichemical pulp (SCP) ...; mechanical pulp such as ground wood pulp (GP) ...; non-wood fiber pulp made from kozo, mitsumata, hemp, kenaf, and the like as raw materials; and synthetic pulp, etc. Further, the glass-interleaving paper of the present invention may be produced from a mixture of these raw materials, or may be produced from a raw material containing cellulose, etc.

These materials may be recycled paper, virgin pulp, or a mixture of recycled paper and virgin pulp. Among these, virgin pulp is preferable.

[0031] As a raw material for the glass-interleaving paper of the present invention, no matter what type of pulp is used, it is preferable to use pulp produced without using a silicone-based defoamer (a defoamer containing silicone) which is a major cause of defects, etc. in wiring and electrodes when transferred to a glass plate.

Among these, pulp produced without a polydimethylsiloxane-containing defoamer is particularly preferable to use as a raw material for the glass-interleaving paper of the present invention.

[0032] Such glass-interleaving paper of the present invention can be basically produced by using known papermaking methods of glass-interleaving paper.

Examples of preferable methods include: a production method in which pulp as a raw material is washed before preparing a paper raw material liquid in a papermaking step of glass-interleaving paper; and a production method in which washing is performed by showering at least one side of before and during the drying step.

[0033] Figures 1 and 2 conceptually show one example of a general apparatus for producing glass-interleaving paper (a general apparatus for papermaking glass-interleaving paper). ...

[0039] As a method of producing the glass-interleaving paper of the present invention, there is exemplified a method of washing pulp as a raw material before preparing a paper raw material liquid to be fed to a head box 12 in such an apparatus for producing glass-interleaving paper (a step of papermaking glass-interleaving paper).

According to the investigation by the present inventors, it is considered that an organosilicon compound which is transferred from glass-interleaving paper to a glass plate is often caused by impurities adhering to pulp as a raw material. Thus, an organosilicon compound adhering to pulp is dissolved with a solvent by adding the

pulp as a raw material to the solvent, stirring, leaving the pulp, etc. Thereafter, the pulp is filtered to wash the pulp with the solvent.

In this way, by using pulp washed with a solvent, a paper raw material liquid is prepared and fed to the head box 12 to produce glass-interleaving paper. Thereby, it is possible to produce the glass-interleaving paper of the present invention, in which an organosilicon compound is 3 ppm or less.

[0042] ... As another method of producing the glass-interleaving paper of the present invention, there is exemplified a method of washing paper by showering on at least one side of before a dryer part 24 and in the course of passing the dryer part 24 in such an apparatus for producing glass-interleaving paper.

That is, a shower is provided on at least one side of before the dryer part 24 (between the press part 20 and the dryer part 24) and in the course of passing the dryer part 24, and on at least one side of before drying and during drying, paper is washed by showering with a solvent capable of dissolving an organosilicon compound which is considered to be adhering to the paper. Thereby, foreign matter of the organic silicon compound contained in the paper is dissolved and removed, so that the glass-interleaving paper of the present invention, in which an organic silicon compound is 3 ppm or less, can be produced.

Alternatively, the showers for washing before the dryer part 24 and in the course of passing the dryer part 24 may be provided at multiple locations in the conveying direction of paper.

[0043] As for the solvent to be used for washing by showering, an organic solvent, etc. capable of dissolving an organosilicon compound which is considered to adhere to paper can be selected as appropriate, as in the case of pulp washing mentioned above. Solvents similar to those exemplified above in pulp washing are exemplified. As in the case mentioned above, the solvent may be diluted for use as needed.

In addition, the conditions for washing paper by showering, such as an amount of a solvent used for washing by showering and a spray velocity of a solvent, can be appropriately set to reduce an organosilicon compound contained in the glass-interleaving paper to 3 ppm or less, depending on a thickness of paper, a conveying velocity and conveying route of paper, a type of paper (raw materials, etc.), solubility of a solvent for an organosilicon compound, etc.

[0044] ... As another method of producing the glass-interleaving paper of the present invention, it is also possible to use a method of dissolving and removing foreign matter of an organosilicon compound contained in the paper by providing a

water tank filled with a solvent capable of dissolving the organosilicon compound which is considered to adhere to the paper before or in the course of dryer part 24, and feeding the paper through the water tank.

[0045] The glass-interleaving paper of the present invention may be produced by two or more methods of: washing pulp; washing paper by showering; and washing using a water tank as mentioned above.

In addition, after washing pulp and paper with solvents, the pulp and paper may be washed with clean water such as pure water, as needed.

F. Examples

[0053] [Example 1]

Virgin pulp as a raw material was fed into toluene which was diluted 50 times (volume ratio) with ethanol, stirred for 10 hours, and then filtered to wash pulp as the raw material.

The washed pulp was used as the raw material to produce glass-interleaving paper using a general apparatus for producing glass-interleaving paper as shown in Figures 1 and 2.

The produced glass-interleaving paper was cut into cut sheets according to the size of the glass plate as mentioned below, and components were extracted from the glass-interleaving paper by means of a Soxhlet extractor. The extracted components were analyzed by means of Nuclear Magnetic Resonance equipment, which showed that the contained amount of organosilicon compounds was 2 ppm.

[0054] [Comparative Example 1]

Glass-interleaving paper was produced in the same manner as in Example 1, except that the pulp as the raw material was not washed.

The produced glass-interleaving paper was analyzed in the same manner as in Example 1, which showed that the contained amount of organosilicon compounds was 4 ppm.

[0055] [Example 2]

In the general apparatus for producing glass-interleaving paper as shown in Figures 1 and 2, showers for washing paper are provided at two points in the course of the dryer part 24.

By using such producing apparatus and using virgin pulp as a raw material, paper was washed by showering toluene diluted 50 times (volume ratio) with ethanol while being dried in the dryer part 24 to produce glass-interleaving paper.

[0056] The produced glass-interleaving paper was analyzed in the same manner as in Example 1, which showed that the contained amount of organosilicon

compounds was 1 ppm.

[0057] [Comparative Example 2]

Glass-interleaving paper was produced in the same manner as in Example 2, except that paper was not washed by showering in the dryer part 24.

The produced glass-interleaving paper was analyzed in the same manner as in Example 1, which showed that the contained amount of organosilicon compounds was 4 ppm.

[0058] [Performance evaluation]

Each of the glass-interleaving paper produced in Examples 1 and 2 as well as in Comparative Examples 1 and 2 mentioned above was interposed between glass plates for FPDs (glass for liquid crystals AN100 manufactured by Asahi Glass Co., Ltd.) with a thickness of 0.5 mm and a size of 1500 × 1300 mm to make a glass plate laminate in which the multiple glass plates are laminated.

Five pallets (2000 glass plates) of these glass plate laminates were made for each of the glass-interleaving paper of Examples 1 and 2 and Comparative Examples 1 and 2.

These glass plate laminates were loaded onto general glass plate packaging pallets to make glass plate packaging bodies.

The glass packaging bodies made in this way were transported by ship from Taiwan to Japan.

[0059] From the glass plate packaging bodies which were transported to Japan, 100 glass plates were randomly selected for each of the glass plate laminates.

Subsequently, linear wiring with a width of 5 μm was formed at an interval of 80 μm on the surfaces of all of the selected glass plates.

[0060] Disconnection state of the formed wiring was checked.

As a result, wiring disconnection was not observed in any of the glass plates which were laminated using the glass-interleaving paper of Examples 1 and 2.

In contrast thereto, wiring disconnection was confirmed in all of the glass plates which were laminated using the glass-interleaving paper of Comparative Examples 1 and 2.

From the results mentioned above, the effect of the Present Invention is clear.

(2) Findings of the Prior Application

A. The description of Exhibit Ko 1 states an invention relating to "glass-interleaving paper" ([0001]).

B. With regard to the invention, the description of Exhibit Ko 1 states that glass refers to "a glass plate for FPDs (Flat Panel Displays) such as ... a glass plate for

liquid crystal displays" and this "glass-interleaving paper" is inserted between laminated glass plates and separates the surfaces of adjacent glass plates from each other in order to prevent flaws and contamination on the surfaces of the glass plates ([0002], [0005]).

Thus, the description of Exhibit Ko 1 states "glass-interleaving paper in which glass refers to a glass plate for FPDs such as a glass plate for liquid crystal displays, and this glass-interleaving paper is inserted between laminated glass plates and separates the surfaces of adjacent glass plates from each other in order to prevent flaws and contamination on the surfaces of the glass plates."

C. With regard to the invention, the description of Exhibit Ko 1 states that an organosilicon compound which is transferred from glass-interleaving paper to a glass plate is a major cause of defects in wiring, etc., and the occurrence of defects in wiring, etc. due to an organosilicon compound can be reduced by reducing the contained amount of an organosilicon compound ([0020] to [0025]).

Thus, the description of Exhibit Ko 1 states that "an organosilicon compound which is transferred from glass-interleaving paper to a glass plate is a major cause of defects in wiring, etc. and therefore, the occurrence of defects in wiring, etc. due to an organosilicon compound can be reduced by providing glass-interleaving paper in which the contained amount of an organosilicon compound" is small.

D. With regard to the amount of an organosilicon compound contained in the glass-interleaving paper according to the invention, the description of Exhibit Ko 1 states that the occurrence of defects in wiring, etc. due to an organosilicon compound can be reduced by setting this amount to "3 ppm or less," "more preferably 1 ppm or less," and "the smaller the contained amount of an organosilicon compound, the more preferable," and "there is no limitation on the lower limit," but "it is difficult to completely remove an organosilicon compound from glass-interleaving paper, and thus, it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small," and therefore, "the contained amount of an organosilicon compound is preferably 0.05 ppm or more" ([0025], [0026], [0028]).

Thus, the description of Exhibit Ko 1 states that "the occurrence of defects in wiring, etc. due to an organosilicon compound can be reduced by providing glass-interleaving paper in which the contained amount of an organosilicon compound is 3 ppm or less, and the contained amount of an organosilicon compound is more preferably 1 ppm or less, and the smaller the contained amount of an organosilicon compound, the more preferable, and there is no limitation on the lower limit of the

contained amount of an organosilicon compound, but it is difficult to completely remove an organosilicon compound from glass-interleaving paper, and thus, it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small, and therefore, the contained amount of an organosilicon compound is preferably 0.05 ppm or more."

E. The description of Exhibit Ko 1 states that polydimethylsiloxane which is silicone is included as the organosilicon compound which causes the occurrence of defects in wiring, etc. ([0024]).

Thus, the description of Exhibit Ko 1 states that "the organosilicon compound is silicone, polydimethylsiloxane."

F. According to the above, it can be recognized that the invention stated in the description of Exhibit Ko 1 is the Invention of the Prior Application as found in the Present Appeal Decision (No. 2, 3(2)A above).

(3) Comparison between Present Invention 1 and the Invention of the Prior Application

According to the above, it can be recognized that the Invention of the Prior Application has the Common Feature (No. 2, 3(2)B above) and Different Features 1 and 2 (No. 2, 3(2)C above) as found in the Present Appeal Decision.

Different Feature 1 is that the pulp of the "interleaving paper for glass plates" of Present Invention 1 is "wood pulp," whereas it is not specified whether the pulp of the glass-interleaving paper of the Invention of the Prior Application is "wood pulp." It is well known that a raw material for paper is generally pulp. In addition, the description of Exhibit Ko 1 states various types of pulp as a raw material for glass-interleaving paper in [0030]. Further, the statements in [0031], [0033], to [0045], and Examples 1 and 2 of the description of Exhibit Ko 1 are based on the premise that the glass-interleaving paper of the Invention of the Prior Application is also made from "pulp as a raw material." On the other hand, because the description of Exhibit Ko 1 does not state that only pulp other than wood pulp is used as a raw material, it can be understood that the glass-interleaving paper of the Invention of the Prior Application can be made from wood pulp as a raw material. In view of the above, Different Feature 1 is not a substantial difference.

Furthermore, Different Feature 2 is that in Present Invention 1, "the amount of silicone contained in the paper is 0.5 ppm or less relative to the absolute dry mass of the paper," whereas, in the Invention of the Prior Application, "the contained amount of an organosilicon compound is more preferably 1 ppm or less, and the smaller the contained amount of an organosilicon compound, the more preferable, and there is no

limitation on the lower limit of the contained amount of an organosilicon compound, but it is difficult to completely remove an organosilicon compound from glass-interleaving paper, and thus, it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small, and therefore, the contained amount of an organosilicon compound is preferably 0.05 ppm or more." In this regard, the two inventions overlap in the range of 0.05 ppm or more to 0.5 ppm or less. In view of the above, Different Feature 2 is not a substantial difference.

Therefore, Present Invention 1 is identical to the Invention of the Prior Application.

(4) Plaintiff's principal assertion (Overlooking that the Invention of the Prior Application is not yet completed as an invention)

A. The Plaintiff asserts that a so-called "incomplete invention", which is not configured in a concrete and objective manner to the extent that a person ordinarily skilled in the art can repeatedly work an invention to achieve an intended effect, does not fall under an "invention ... for another patent application" as referred to in Article 29-2 of the Patent Act, and thus does not have an effect of excluding a later application, and that therefore, the invention stated in the description of Exhibit Ko 1 is not yet completed as an invention.

B. Determination in this regard will be discussed. Article 29-2 of the Patent Act, with which Article 184-13 of the Patent Act is deemed to be replaced, provides that if an invention claimed in a patent application is identical to an invention or a device stated in the description or the drawings (hereinafter referred to as "the description, etc. of a prior application") originally attached to the written application for another patent application for a patent or utility model registration which was filed prior to the date of the relevant patent application, with regard to which an issue of the gazette in which the patent appears or the bulletin in which the utility model appears was published subsequent to the filing of the relevant patent application, a person may not obtain a patent for the invention.

The purpose of this Article is as follows. An invention stated in the description, etc. of the prior application, even if the invention is stated other than in the scope of claims, is laid open to the public in a publication, etc. of the prior application. Thus, even if a later application is filed before the publication, etc. of the prior application, when the invention of the later application is identical to the Invention of the Prior Application, no new technology is laid open to the public in the publication, etc. of the later application. Therefore, granting a patent to such

invention is inappropriate from the viewpoint of the purpose of the patent system which intends to protect an invention as a reward for laying a new invention open to the public.

In view of this purpose, the "invention" stated in the description, etc. of the prior application as referred to in this Article is construed as an invention which is understood from a matter stated in the description, etc. of the prior application and from a matter equivalent to that stated in the description, etc. of the prior application. The "matter equivalent to that stated" means a matter which can be derived from the stated matter by taking into consideration the common general technical knowledge at the time of filing.

Thus, even if there is no particular statement in the description, etc. of the prior application, the Invention of the Prior Application can be found taking into consideration the common general technical knowledge of a person ordinarily skilled in the art in order to understand the Invention of the Prior Application. On the other hand, in the case where an invention lacks concreteness, or technical content of an invention is insufficiently disclosed even taking into consideration the common general technical knowledge of a person ordinarily skilled in the art, such invention does not fall under the "invention" mentioned above, and does not have an effect of excluding the later application provided for in this Article. Further, created technical content which is not configured to the extent that any person having ordinary knowledge and experience in the art can repeatedly work the technical content to achieve an intended technical effect is not yet completed as the "invention" and it should not be deemed that such technical content falls under the "invention" as referred to in Article 29-2 of the Patent Act.

C. Considering this point in the present case, the description of Exhibit Ko 1 states that in glass-interleaving paper which is inserted between laminated glass plates and separates the surfaces of adjacent glass plates from each other in order to prevent flaws and contamination on the surfaces of glass plates for FPDs such as glass plates for liquid crystal displays, means for solving the problem is to set the amount of an organosilicon compound which is silicone, polydimethylsiloxane, contained in the glass-interleaving paper to 3 ppm or less, preferably 1 ppm or less, and 0.05 ppm or more in order to solve the problem of inhibiting defects which occur when fine wiring, electrodes, and the like are formed on the surfaces of laminated glass plates between which the glass-interleaving paper is interposed.

To be more concrete, the description of Exhibit Ko 1 states that: first of all, since even the existence of a slight amount of an organosilicon compound on the

surfaces of glass plates inhibits the formation of a metal thin film for wiring, the patterning by etching, etc. and causes unevenness in black matrices of color filters, when an organosilicon compound is transferred from glass-interleaving paper to a glass plate, the transferred organosilicon compound becomes foreign matter, which is a major cause of the occurrence of defects in the formation of elements such as wiring and electrodes, and color filters, etc. on the glass plate; among these, when silicone is transferred to a glass plate, defects, etc. in wiring and electrodes are likely to occur, and in particular when dimethylsiloxane is transferred to a glass plate, defects, etc. in wiring and electrodes are more likely to occur ([0021], [0024]); in contrast thereto, defects, etc. in wiring due to an organosilicon compound which is transferred from glass-interleaving paper to a glass plate can be significantly reduced by setting the amount of an organosilicon compound contained in the glass-interleaving paper to 3 ppm or less ([0025]); the contained amount of an organosilicon compound is preferably 2 ppm or less, and more preferably 1 ppm or less ([0027]); and the smaller the contained amount of an organosilicon compound, the more preferable, but taking into consideration that it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small, the contained amount of an organosilicon compound is preferably 0.05 ppm or more ([0028]).

In addition, the description of Exhibit Ko 1 states that: pulp produced without using a silicone-based defoamer is preferably used as a raw material for the glass-interleaving paper, and pulp produced without a polydimethylsiloxane-containing defoamer is particularly preferably used ([0031]); methods of producing the glass-interleaving paper include a method in which pulp as a raw material is washed ([0039]), a method in which paper is washed by showering ([0042]), and a method in which paper is fed through a water tank filled with a solvent capable of dissolving an organosilicon compound which is considered to adhere to the paper ([0044]) in the production process of glass-interleaving paper; and two or more of washing of pulp, washing of paper by showering, and washing using a water tank may be performed ([0045]).

Next, the description of Exhibit Ko 1 states in the Examples that: washed pulp was used as a raw material to produce the glass-interleaving paper, and as a result, the contained amount of organosilicon compounds was 2 ppm (Example 1, [0053]); and in the apparatus for producing the glass-interleaving paper, showers for washing paper are provided in the course of the dryer part to produce the glass-interleaving paper, and as a result, the contained amount of organosilicon compounds was 1 ppm

(Example 2, [0055], [0056]). Further, the description of Exhibit Ko 1 states that glass plate packaging bodies using the glass-interleaving paper of each of the above-mentioned Examples were transported by ship from Taiwan to Japan, and then linear wiring with a width of 5 μm was formed at an interval of 80 μm on the surfaces of the glass plates which were randomly selected, and as a result, wiring disconnection was not observed in any of the glass plates ([0058] to [0060]).

Furthermore, the description of Exhibit Ko 1 states that silicone, particularly polydimethylsiloxane, is included as the organosilicon compound which causes the occurrence of defects in wiring, etc. ([0024]). In view of the above, it is natural to understand that the organosilicon compounds in Examples 1 and 2 mean polydimethylsiloxane.

D. According to the above, it can be understood that: the Invention of the Prior Application, in which the contained amount of an organosilicon compound which is silicone, polydimethylsiloxane, in glass-interleaving paper is set to 3 ppm or less, preferably 1 ppm or less and 0.05 ppm or more, can significantly reduce defects in wiring, etc. due to the organosilicon compound which is transferred from the glass-interleaving paper to a glass plate, and in particular, can prevent polydimethylsiloxane from being transferred to a glass plate and easily causing the occurrence of defects in wiring, electrodes, etc., and thus achieves the intended effect of the Invention of the Prior Application; and such glass-interleaving paper can be produced by using pulp produced without using a polydimethylsiloxane-containing defoamer as a raw material, and by washing the pulp, washing paper by showering, washing using a water tank, or by two or more of these methods in the production process of glass-interleaving paper.

Then, it should be deemed that the Invention of the Prior Application was configured to the extent that any person having ordinary knowledge and experience in the art can repeatedly work the created technical content to achieve the intended technical effect.

Thus, the Invention of the Prior Application falls under the "invention" as referred to in Article 29-2 of the Patent Act and cannot be deemed to be incomplete. Therefore, the Invention of the Prior Application has an effect of excluding the later application which is identical to the Invention of the Prior Application pursuant to Article 29-2 of the Patent Act.

E. The Plaintiff asserts that according to the Examples of the description of Exhibit Ko 1, [i] the contained amount of the "organosilicon compound" in the glass-interleaving paper cannot be specified because an extraction time by the Soxhlet extractor is unclear, [ii] further, the extraction operation shown in the Examples

cannot be performed because an extraction solvent and an extraction time are unclear, [iii] furthermore, it is unclear what specifically the organosilicon compound is, and [iv] in addition, because a reference standard for quantitative determination by Nuclear Magnetic Resonance (NMR) is not stated and it is unclear what specifically the organosilicon compound is, it is impossible to prepare a reference standard itself and it is impossible to determine a calibration curve, and thus, the organosilicon compound cannot be quantitatively determined in principle, and therefore, the technical idea is not completed.

(A) However, first of all, with regard to [iii], it is natural to understand that the organosilicon compound in the Examples means polydimethylsiloxane, as mentioned in C above.

(B) With regard to Soxhlet extraction in [i] and [ii], there are the following documents.

a. "Kagaku Dai Jiten 5 [Shukusatsu Ban] (Chemical Encyclopedia 5 [Reduced-size Edition])" (in Japanese) edited by Chemical Encyclopedia Editorial Board (Kyoritsu Shuppan Co., Ltd., the 39th reduced-size edition, published on September 15, 2006. Exhibit Ko 13) page 527

"Soxhlet extractor

... One of glassware used when solvent extraction is performed in a laboratory. ... Non-volatile components in a sample are dissolved with a volatile solvent as follows ... after extraction is sufficiently finished, the flask is removed, and if the solvent is distilled away, the non-volatile components will be left behind. A Soxhlet extractor is widely used for quantitative determination, extraction, etc. of oil content."

b. Unexamined Patent Application Publication No. 2007-114249 (Exhibit Otsu 2)

[0051] ... Here, the Soxhlet extraction amount of polydimethylsiloxane refers to a ratio of the polydimethylsiloxane extraction amount determined by weighing the amount of polydimethylsiloxane contained in the dried solid of the extraction liquid relative to the total extraction amount. In order to obtain the dried solid of the extraction liquid, an elastic body was extracted with 100 ml of n-hexane as an extraction solvent in a Soxhlet for 8 hours, and the extraction liquid and the extraction residue were dried and solidified at about 1 Pa for 5 hours.

c. Unexamined Patent Application Publication No. 2009-120707 (Exhibit Otsu 3)

[0040] ... Such polycarbonate-polyorganosiloxane copolymers include free

polyorganosiloxane used as a raw material for a polymer which is not bonded to polycarbonate to no small extent, and components in which carbonate units or terminator carbonate units are bonded to polyorganosiloxane but insufficiently bonded (hereinafter referred to as "free polyorganosiloxane, etc."). The amount of such free polyorganosiloxane, etc. can be calculated by an extraction treatment with n-hexane.

[0041] ... Such n-hexane extraction amount is calculated by performing Soxhlet extraction treatment of a weighed copolymer sample with special grade n-hexane.

d. Unexamined Patent Application Publication No. 7-18140 (Exhibit Otsu 4)

[0015] When vinyl chloride is polymerized with a macro azo initiator in which a polysiloxane-based compound is bonded to an azo compound, the product may contain a polysiloxane-based compound which is a decomposition product of the macro azo initiator and is not bonded to polyvinyl chloride, in addition to a block copolymer consisting of a polysiloxane-based block and a polyvinyl chloride-based block. The contained amount of such a non-bonded polysiloxane-based compound can be determined by performing Soxhlet extraction for several hours using a solvent (for example, diethyl ether or n-hexane) which dissolves polysiloxane-based compounds and does not dissolve vinyl chloride-based polymers.

e. In light of the above statements in Exhibit Ko 13 and Exhibits Otsu 2 to Otsu 4, it can be deemed that it was the common general technical knowledge at the time of filing the prior application that non-volatile components were sufficiently extracted with a volatile solvent using a Soxhlet extractor, and oil content was quantitatively determined by removing the solvent, and that polyorganosiloxane such as polydimethylsiloxane was also quantitatively determined by performing Soxhlet extraction with a solvent such as n-hexane.

(C) With regard to NMR in [iv], there are the following documents.

a. "Kiki ni yoru Koubunshi Bunseki (I) (Polymer Analysis by Instruments (I))" (in Japanese) written by The Japan Society for Analytical Chemistry (Hirokawa Shoten, the 2nd edition, published on September 15, 1963. Exhibit Ko 21)

Quantitative determination of methyl and phenyl groups in methylphenyl silicone oil by NMR method

... The nuclear magnetic resonance absorption method has been developed more and more in recent years, and many research results have been presented as well as improvements in instruments. ... To use the NMR method for qualitative analysis, chemical shifts and the separation of absorption lines based on I-I bonds are utilized. Quantitative analysis mainly utilizes the phenomenon that total intensity of absorption lines (peak areas) is proportional to a concentration of nucleus of interest. (Page 195,

lines 1 to 12)

b. "Silicone Handbook" edited by Kunio Ito (THE NIKKAN KOGYO SHIMBUN, LTD., published on August 31, 1990. Exhibit Ko 22)

20.1.2. Methods of quantitative analysis for silicone

Measuring Si content in silicone is the main method of quantitative analysis for silicone, but there are also other methods using IR, NMR, etc. ...

(3) Quantitative determination is also possible by NMR measurement if a sample is uncured, particularly if dimethyl silicone is a target of measurement. In the NMR of dimethyl silicone, ... the chemical shift (δ) is around 0 ppm, which is different from many other organic compounds, and thus, the mixing ratio (the contained amount) can be determined by comparing this peak intensity with that of a sample having a known concentration of silicone. In addition, if the sample is a mixture with a known compound, the mixing ratio (the contained amount) can be determined by relative comparison of the peak intensities. (Page 767, lines 17 to page 768, line 21)

c. According to the above statements of Exhibits Ko 21 and Ko 22, it can be deemed that it was common general technical knowledge at the time of filing the prior application that quantitative analysis of silicone such as dimethyl silicone is performed by NMR, and in this case, quantitative analysis is performed by comparing the peak intensity with that of a sample having a known concentration of silicone.

(D) Then, it can be deemed that a person ordinarily skilled in the art having the common general technical knowledge as mentioned in (B) above will naturally understand when having read the description of Exhibit Ko 1 that a volatile solvent suitable for the extraction of polydimethylsiloxane is used to perform the extraction for a sufficient time, even if there is no specific statement on the extraction time and the extraction solvent in the Examples.

In addition, it can be deemed that a person ordinarily skilled in the art having the common general technical knowledge as mentioned in (C) above will understand when having read the description of Exhibit Ko 1 that an appropriate sample having a known concentration is used as a reference standard for the quantitative determination of polydimethylsiloxane, even if there is no specific statement as to what a reference standard of NMR is in the Examples.

Therefore, even taking into consideration the circumstances pointed out by the Plaintiff, it should be deemed that the Invention of the Prior Application falls under the "invention" as referred to in Article 29-2 of the Patent Act.

F. The Plaintiff points out that the Applicant of the Invention of the Prior

Application is not a papermaking company, and also asserts that it can be inferred that the technical idea as the Invention of the Prior Application is not completed. However, even taking into consideration the content of this assertion, the determination mentioned above remains the same.

The Plaintiff further asserts as follows: it cannot be inferred that the "organosilicon compound" stated in the Examples of the description of Exhibit Ko 1 was polydimethylsiloxane; rather, if the "organosilicon compound" stated in the Examples of the description of Exhibit Ko 1 is polydimethylsiloxane as the Defendant asserts, then glass-interleaving paper containing the same amount of polydimethylsiloxane should give the same experimental results; however, in the Examples of the Present Description, when the glass-interleaving paper in which the contained amount of polydimethylsiloxane was 2 ppm (Comparison Example 1) was used, contamination by polydimethylsiloxane was confirmed on the surfaces of the glass plates, and when arrays of liquid crystal panels were formed using the glass plates mentioned above, disconnection of color films was observed; in contrast thereto, in the Examples of the description of Exhibit Ko 1, it is stated that wiring disconnection was not observed when wiring was formed on the surfaces of the glass plates using the glass-interleaving paper in which the contained amount of the organosilicon compound was 2 ppm (Example 1), and in both cases, different experimental results were obtained for the glass-interleaving paper containing the same 2 ppm of polydimethylsiloxane or the "organosilicon compound"; and therefore, it can be inferred that the organosilicon compound used in the Examples of the description of Exhibit Ko 1 is not polydimethylsiloxane.

However, in Comparative Example 1 of the Present Description, the glass-interleaving paper in which the contained amount of silicone was 2.0 ppm was inserted between the glass plates, and the transportation test (transportation distance of 1,000 km, stored for five days under the environment of 40°C × 95% RH in the course of the transportation) was performed. Thereafter, when the glass plates after the transportation test were used to form arrays of liquid crystal panels, disconnection was observed. In contrast thereto, in Example 1 of the description of Exhibit Ko 1, the glass-interleaving paper in which the contained amount of the organosilicon compound was 2 ppm was interposed between the glass plates and transported by ship from Taiwan to Japan. Thereafter, linear wiring with a width of 5 μm was formed at an interval of 80 μm on the surfaces of the glass plates, and as a result, wiring disconnection was not observed. Thus, in the two examples, the transportation conditions as well as the conditions to check the presence or absence of disconnection

are different. Therefore, it cannot be inferred that the organosilicon compound in Example 1 of the description of Exhibit Ko 1 is not polydimethylsiloxane simply because the result of Comparative Example 1 of the Present Description is different from that of Example 1 of the description of Exhibit Ko 1.

For the foregoing reasons, the Plaintiff's assertion mentioned above is groundless.

(5) Plaintiff's Alternative Assertion 1 (Erroneous findings of the Invention of the Prior Application)

The Plaintiff asserts as follows: the Examples of the description of Exhibit Ko 1 do not specify that the "organosilicon compound" was polydimethylsiloxane; in the first place, it is completely unclear what the "organosilicon compound" is; thus, in the description of Exhibit Ko 1, the statement on polydimethylsiloxane is merely a formality and the Invention of the Prior Application is not substantially disclosed; and therefore, the invention cannot be found from the description of Exhibit Ko 1.

However, the description of Exhibit Ko 1 states that the organosilicon compound which causes the occurrence of defects in wiring, etc. includes silicone, polydimethylsiloxane ([0024]), and it is natural to understand that the organosilicon compound in Examples 1 and 2 means polydimethylsiloxane, as mentioned in (4)C above.

For the foregoing reasons, the Plaintiff's assertion is groundless.

(6) Plaintiff's Alternative Assertion 2 (Erroneous determinations of Different Feature 2)

A. The Plaintiff asserts that among the points of Different Feature 2, the portion which is found as if the upper limit of the contained amount of an organosilicon compound is 1 ppm is erroneous, and this portion should be found as "the contained amount of polydimethylsiloxane is 3 ppm or less, more preferably 1 ppm or less." However, as mentioned in (2)F above, the Invention of the Prior Application can be found as the one found by the Present Appeal Decision even by the statement of the description of Exhibit Ko 1. The Plaintiff's assertion to the contrary is groundless.

B. The Plaintiff asserts that the amount of silicone which can be contained in the glass-interleaving paper according to Present Invention 1 is 0.5 ppm relative to the absolute dry mass of the paper, whereas the above amount of silicone is smaller than 3 ppm which is the amount of polydimethylsiloxane which can be contained in the glass-interleaving paper according to the Invention of the Prior Application, and that therefore, in view of the above, Present Invention 1 is not identical to the Invention of

the Prior Application.

In addition, the Plaintiff asserts as follows: since the amount of silicone contained in the glass-interleaving paper according to Present Invention 1 is smaller than that contained in the glass-interleaving paper according to the Invention of the Prior Application, the glass-interleaving paper according to Present Invention 1 can further reduce the amount of silicone which is transferred when the glass-interleaving paper comes into contact with a glass plate, and thereby, it is possible to achieve the new effect of further inhibiting contamination of the surface of the glass plate by silicone and further inhibiting inconvenience such as circuit disconnection on the glass plate caused by silicone; in fact, the description of Exhibit Ko 1 states in the Examples that the glass-interleaving paper of Example 1 in which the contained amount of the "organosilicon compound" was 2 ppm did not cause any inconvenience such as circuit disconnection on the glass plate; in contrast thereto, the Present Description shows that the glass-interleaving paper of Comparative Example 1 in which the contained amount of silicone was 2.0 ppm caused inconvenience of circuit disconnection on the glass plate, and the glass-interleaving paper of Example 1 (the contained amount of silicone was less than 0.01 ppm) and the glass-interleaving paper of Example 2 (the contained amount of silicone was 0.4 ppm) of the Present Description did not cause any inconvenience such as circuit disconnection on the glass plate; thus, it cannot be deemed that Different Feature 2 is a very minor difference for solving the problem, and therefore, it also cannot be deemed that Present Invention 1 is substantially identical to the Invention of the Prior Application.

Then, determination will be discussed with regard to the Plaintiff's assertion. The upper limit of the amount of silicone contained in the glass-interleaving paper of Present Invention 1 is "0.5 ppm." On the other hand, the upper limit of the amount of polydimethylsiloxane contained in the glass-interleaving paper of the Invention of the Prior Application is "preferably 1 ppm or less," which is the difference between the two inventions. However, the range of "0.5 ppm or less" in Present Invention 1 overlaps the range of the Invention of the Prior Application which is "preferably 1 ppm or less" and preferably "0.05 ppm or more". Thus, it cannot be deemed that the amount of silicone which can be contained in the glass-interleaving paper of Present Invention 1 is smaller than the amount of polydimethylsiloxane which can be contained in the glass-interleaving paper of the Invention of the Prior Application.

Further, it can be understood that taking into the consideration the statement that: when an organosilicon compound is transferred from glass-interleaving paper to a glass plate, the transferred organosilicon compound becomes foreign matter, which

is a major cause of the occurrence of defects in the formation of elements such as wiring, electrodes, color filters, etc. on the glass plate; when the contained amount of an organosilicon compound exceeds 3 ppm, it is impossible to sufficiently inhibit the transfer of an organosilicon compound from glass-interleaving paper to a glass plate, and it is impossible to sufficiently obtain the effect of reducing the occurrence of defects in wiring, etc. due to the organosilicon compound which is transferred from the glass-interleaving paper to the glass plate; and the contained amount of an organosilicon compound is more preferably 1 ppm or less and the smaller the contained amount of an organosilicon compound, the more preferable ([0024] to [0028]), the smaller the amount of an organosilicon compound contained in glass-interleaving paper, the less the organosilicon compound is transferred from the glass-interleaving paper to a glass plate, and thus the smaller the degree of the occurrence of defects when elements such as wiring, electrodes, color filters, etc. are formed on the glass plate.

Then, if the amount of silicone contained in glass-interleaving paper is small, the glass-interleaving paper can further reduce the amount of silicone which is transferred from glass-interleaving paper to a glass plate when the glass-interleaving paper comes into contact with the glass plate, and thereby, the effects of further inhibiting contamination of the surface of the glass plate by silicone and further inhibiting inconvenience such as circuit disconnection on the glass plate caused by silicone are matters which can be understood from the description of Exhibit Ko 1 and cannot be deemed to be new effects.

Further, the transportation conditions of Comparative Example 1 of the Present Description (the contained amount of silicone was 2.0 ppm) and Example 1 of the description of Exhibit Ko 1 (the contained amount of the organosilicon compound was 2 ppm) as well as the conditions to check the presence or absence of disconnection are different, as discussed in (4) above. Thus, the results of the two examples cannot be directly compared. Even if Comparative Example 1 of the Present Description caused the inconvenience of circuit disconnection, and Example 1 (the contained amount of silicone was less than 0.01 ppm) and Example 2 (the contained amount of silicone was 0.4 ppm) did not cause inconvenience such as circuit disconnection, this merely explains that if the amount of silicone contained in glass-interleaving paper is small, the glass-interleaving paper can further reduce the amount of silicone which is transferred from the glass-interleaving paper to a glass plate when the glass-interleaving paper comes into contact with a glass plate, and thereby, the effects of further inhibiting contamination of the surface of the glass plate by silicone and

further inhibiting inconvenience such as circuit disconnection on the glass plate caused by silicone can be achieved. Furthermore, such effects are matters which can be understood from the description of Exhibit Ko 1, as mentioned above.

According to the above, Present Invention 1 is substantially identical to the Invention of the Prior Application. Therefore, the Plaintiff's assertion is groundless.

C. The Plaintiff also asserts that since the description of Exhibit Ko 1 does not substantially disclose glass-interleaving paper in which the contained amount of polydimethylsiloxane is about 0.05 ppm, based on the statement "preferably 0.05 ppm or more" in [0028] of the description of Exhibit Ko 1, it cannot be found that "the glass-interleaving paper of the Invention of the Prior Application includes glass-interleaving paper in which the contained amount of silicone, which is an organosilicon compound, is about 0.05 ppm which is smaller than 0.5 ppm," and that it is literally unreasonable to find that the statement "more preferably 1 ppm or less" in [0027] means 0.5 ppm or less.

However, the description of Exhibit Ko 1 states in [0028] that the smaller the contained amount of an organosilicon compound, the more preferable, but taking into consideration that it is laborious and costly to produce glass-interleaving paper in which the contained amount of an organosilicon compound is extremely small, the contained amount of an organosilicon compound is preferably 0.05 ppm or more. Then, it can be understood that glass-interleaving paper in which the contained amount of an organosilicon compound is such a degree can be produced by the method which is stated in the description of Exhibit Ko 1. Thus, it can be deemed that glass-interleaving paper in which the contained amount of polydimethylsiloxane is about 0.05 ppm is substantially stated in the description of Exhibit Ko 1. These findings are not prevented by the lack of statement of glass-interleaving paper in which the contained amount of polydimethylsiloxane was about 0.05 ppm in the Examples.

Further, the numerical range of "1 ppm or less" includes "0.5 ppm or less." Thus, it cannot be also deemed that it is literally unreasonable to find that the statement "more preferably 1 ppm or less" means 0.5 ppm or less.

For the foregoing reasons, the Plaintiff's assertion is groundless.

(7) Summary

According to the above, Present Invention 1 is identical to the Invention of the Prior Application, and it is not erroneous for the Present Appeal Decision to determine that Present Invention 1 falls under the provision of Article 29-2 of the Patent Act. Therefore, reasons for rescission are groundless.

3. Conclusion

Therefore, since the Plaintiff's claim is groundless, the Plaintiff's claim shall be dismissed. The judgment is rendered as mentioned in the main text.

Intellectual Property High Court, First Division

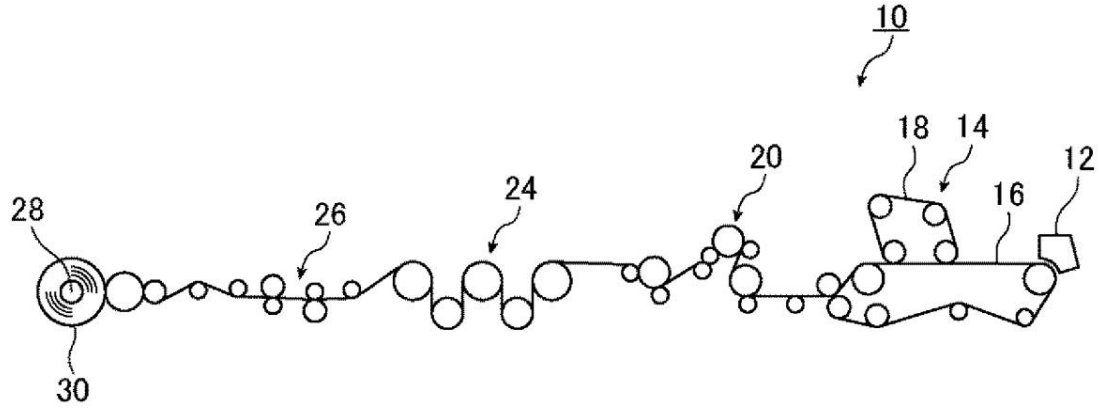
Presiding Judge TAKABE Makiko

Judge KOBAYASHI Yasuhiko

Judge TAKAHASHI Aya

(Attachment: Description of Exhibit Ko 1)

[Figure 1]



[Figure 2]