Trial decision

Invalidation No. 2016-800058

Tokyo, Japan
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The case of trial regarding the invalidation of Japanese Patent No. 5396136, entitled "Absorber for spray can and spray can product" between the above parties has resulted in the following trial decision:

Conclusion

The correction of the description and the scope of claims, and drawings of Japanese Patent No. 5396136 shall be approved as described in the corrected specification, scope of claims, and drawings attached to the written correction request, as for corrected Claims 1, 3 to 9.

The patent for the invention according to Claims 1, 6, and 8 of Japanese Patent No. 5396136 shall be invalidated.

The demand for trial of the case for Claim 2 of Japanese Patent No. 5396136 shall be dismissed.

One-quarter of the costs in connection with the trial shall be borne by Demandant and three-quarters by Demandee.

Reason

No. 1 History of the procedures

History of the procedures for Japanese Patent No. 5396136 (hereinafter, referred to as the "patent of the case") is briefly described below.

Application for a patent of the case was filed on April 20, 2009.

A patent of the case was registered on October 25, 2013 (Japanese Patent No. 5396136).

A written demand for invalidation of the patent of the case (hereinafter, referred to as the "written demand") was submitted on May 19, 2016.

A written reply of the trial case (hereinafter, referred to as "written reply (1)") and a written correction request were submitted on July 29, 2016.

A written refutation of the trial case (hereinafter, referred to as the "written refutation") was submitted on September 16, 2016.

Notice of reasons for refusal of correction and notice of proceeding result by ex officio dated October 18, 2016.

Demandant submitted a written opinion dated November 18, 2016 (hereinafter, referred to as "Demandant's written opinion").

Demandee submitted a written opinion (hereinafter, referred to as "Demandee's written opinion") and a written reply of trial case (hereinafter, referred to as "written reply (2)") on November 18, 2016.

Notification of matters to be examined dated January 23, 2017.

Demandee submitted an oral proceedings statement brief (hereinafter, referred to as "Demandee's statement brief (1)") on February 23, 2017.

Demandant submitted an oral proceedings statement brief (hereinafter, referred to as "Demandant's statement brief (1)") on February 24, 2017.

Notification of matters to be examined (2) dated March 7, 2017.

Demandee submitted an oral proceedings statement brief (hereinafter, referred to as "Demandee's statement brief (2)") on March 16, 2017.

Demandant submitted an oral proceedings statement brief (hereinafter, referred to as "Demandant's statement brief (2)") on March 17, 2017.

March 24, 2017 Oral proceedings

May 22, 2017 A preliminary notice of trial decision

A written correction request dated July 24, 2017 (hereinafter, referred to as the "written correction request", and the correction according to the written correction request is referred to as the "correction").

Notice of reasons for refusal of correction and notice of proceeding result by ex officio dated August 30, 2017.

Demandant submitted a written opinion dated September 29, 2017.

Demandee submitted a written opinion (hereinafter, referred to as "Demandee's written opinion (2)" and a written amendment on October 3, 2017.

As the correction was requested, the request for correction of July 29, 2016 is deemed to have been withdrawn under the provision of Article 134-2(6) of the Patent Act.

No. 2 Suitability of correction

1. Contents of correction

The correction requests to correct the scope of claims of a patent of the case as described in the scope of claims attached to the written correction request for each group of claims, and the contents of correction are as amended on October 3, 2017 as shown below (underlines were added by the body for making corrected portions clear).

1. Correction A

The description in Claim 1 of the scope of claims "... the absorber is a cellulose fiber aggregate comprising ash content within the range of 1% by weight or more but below 20% by weight ..." is corrected to "... the absorber is a cellulose fiber aggregate comprising ash content within the range of 1% by weight or more but below 12% by weight ... ."

2. Correction B

Claim 2 of the scope of claims is cancelled.

3. Correction C

The description in Claim 3 of the scope of claims "... the spray can product described in either of Claim 1 or 2" is corrected to "... the spray can product described in Claim 1."

4. Correction D

The description in Claim 4 of the scope of claims "... the spray can product described in any one of claims 1 to 3" is corrected to "... the spray can product described in either one of Claims 1 and 3."

5. Correction E

The description in Claim 5 of the scope of claims "... the spray can product described in any one of Claims 1 to 4" is corrected to "... the spray can product described in any one of Claim 1, 3, and 4."

6. Correction F

The description in Claim 6 of the scope of claims "... the spray can product described in any one of Claims 1 to 5" is corrected to "... the spray can product described in any one of Claims 1, and 3 to 5."

7. Correction G

The description in Claim 7 of the scope of claims "... the spray can product described in any one of Claims 1 to 6" is corrected to "... the spray can product described in any one of Claims 1, and 3 to 6."

8. Correction H

The description in Claim 8 of the scope of claims "... the spray can product described in any one of Claims 1 to 7" is corrected to "... the spray can product described in any one of Claims 1, and 3 to 7."

9. Correction I

The description in Claim 9 of the scope of claims "... the spray can product described in any one of Claims 1 to 8" is corrected to "... the spray can product described in any one of Claims 1, and 3 to 8."

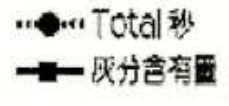
10. Correction J

The description in paragraph [0017] in the description attached to the application of the patent "... consisting of ash content within the range of 1% by weight or more but below 20% by weight ..." is corrected to "... consisting of ash content within the range of 1% by weight or more but below 12% by weight."

11. Correction K
Paragraph [0018] in the description attached to the application of the patent is cancelled.

12. Correction L
The description in paragraph [0039] in the description attached to the application of the patent "... consisting of ash content within the range of 1 to 25% by weight ..." is corrected to "... consisting of ash content within the range of 1% by weight or more but below 12% by weight."

13. Correction M
The description in paragraph [0045] in the description attached to the application of the patent "... consisting of ash content within the range of 1% by weight or more but below 20% by weight ..." is corrected to "... consisting of ash content within the range of 1% by weight or more but below 12% by weight."

14. Correction N
The description,
"


" in [Fig. 6] in the drawings attached to the application of the patent is corrected to:
"


."

Ｔｏｔａｌ 秒 Total seconds
灰分含有量 Percent of the ash content
The correction to correct the descriptions in paragraphs [0086] and [0088] in the description attached to the application of the patent, "30 seconds" to "20 seconds" is cancelled by the amendment of October 3, 2017.

2. Judgment by the body regarding the corrections
(1) Regarding Correction A

Since Correction A decreases the upper limit of the numerical range of the ash content for the absorber in Claim 1 of the scope of claims from "20"% by weight to "12"% by weight, the purpose of the correction falls under the restriction of the scope of claims in accordance with Article 134-2 (1) , proviso, (i) of the Patent Act.

In addition, since correction of the upper limit of the numerical range of the ash content to "12"% by weight is described in Claim 2 of the scope of claims before the correction, Correction A is a correction within the scope of the matters stated in the description, the scope of claims, or the drawings attached to the application of the patent and falls under the provisions of Article 126(5) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

Accordingly, it is obvious that Correction A is a correction that does not substantially enlarge or alter the scope of claims and falls under the provisions of Article 126(6) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(2) Regarding Correction B

Since Correction B cancels Claim 2 of the scope of claims, the purpose of the correction falls under the restriction of the scope of claims in accordance with Article 134-2 (1), proviso, (i) of the Patent Act.

Accordingly, it is obvious that Correction B is a correction within the scope of the matters stated in the description, the scope of claims, or the drawings attached to the application of the patent, and that a correction that does not substantially enlarge or alter the scope of claims and falls under the provisions of Article 126(5) and (6) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(3) Regarding Corrections C to I

While Claims 3 to 9 of the scope of claims were dependent claims that cite Claim 2, since the Corrections C to I cancel Claim 2 from claims that cite the same in line with the cancellation of Claim 2, the purpose of the correction falls under clarification of the ambiguous descriptions under the provisions of Article 134-2(1), proviso, (iii) of the Patent Act.

Accordingly, it is obvious that Corrections C to I are corrections within the scope of the matters stated in the description, the scope of claims, or the drawings attached to the application of the patent, and that a correction that does not substantially enlarge or alter the scope of claims and falls under the provisions of Article 126(5) and (6) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(4) Regarding Corrections J, L, and M

Since Corrections J, L, and M are corrections for correcting the descriptions in paragraphs [0017] and [0045] in the description to "12"% by weight, and the description in paragraph [0039] to "1% by weight or more but below 12% by weight"
in line with the correction of the upper limit of the numerical range of the ash content of the absorber in Claim 1 of the scope of claims to "12"% by weight, the purpose of the correction falls under clarification of the ambiguous descriptions under the provisions of Article 134-2(1), proviso, (iii) of the Patent Act.

In addition, since it is obvious that Correction J is a correction within the scope of the matters stated in the description, the scope of claims, or the drawings attached to the application of the patent, and that a correction that does not substantially enlarge or alter the scope of claims, it falls under the provisions of Article 126(5) and (6) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(5) Regarding Correction K

While paragraph [0018] in the description attached to the application of the patent described a matter related to Claim 2 of the scope of claims before the correction, since Correction K cancels the description in paragraph [0018] in line with the cancellation of Claim 2, the purpose of the correction falls under clarification of the ambiguous descriptions under the provisions of Article 134-2(1), proviso, (iii) of the Patent Act.

Accordingly, since it is obvious that Correction K is a correction within the scope of the matters stated in the description, the scope of claims, or the drawings attached to the application of the patent, and that a correction that does not substantially enlarge or alter the scope of claims, it falls under the provisions of Article 126(5) and (6) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

(6) Regarding Correction N

Correction N is a correction to correct the description in [Fig. 6] attached to the application of the patent such that the dotted line shows the total seconds and the solid line shows the percent of the ash content to a description such that the dotted line shows the percent of the ash content and the solid line shows the total seconds. Judging from conformance to Table 1, the purpose of the correction falls under correction of errors or incorrect translations under Article 134-2(1), proviso, (ii) of the Patent Act.

Accordingly, since it is obvious that Correction N is a correction within the scope of the matters stated in the description, the scope of claims, or the drawings attached to the application of the patent, and that a correction that does not substantially enlarge or alter the scope of claims, it falls under the provisions of Article 126(5) and (6) of the Patent Act applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act.

3. Closing

As described above, since the corrections comply with Article 134-2(1), proviso, and Article 126(5) and (6) applied mutatis mutandis pursuant to Article 134-2(9) of the Patent Act, they are acknowledged as legitimate corrections.

No. 3 Patent inventions

As described in No. 2, since the correction is acceptable, the inventions described in the scope of claims of the patent of the case (hereinafter, referred to as the "patent inventions", and an invention according to each claim is referred to as "Patent Invention 1", etc.) are recognized as follows, as specified in Claims 1 and 3 to 9 of the scope of claims described in the corrected description attached to the written amendment.

"[Claim 1]

A spray can product in which a spray can having a spraying nozzle is filled with combustible liquefied gas and an absorber for retaining liquid, wherein,

the absorber is configured with a cellulose fiber aggregate comprising ash content in a range of 1% by weight or more but below 12% by weight,

an open space is provided in the spray can on the spraying nozzle side for storing the absorber formed to correspond to the form of the spray can and a breathable cover-like member is arranged between the open space and the absorber to breathably protect the surface of the absorber, and

the cover-like member is a disk-shaped porous body press-fitted into the spray can and closely contacting the surface of the absorber, or a porous protective layer integrally formed on the surface of the absorber.

[Claim 2]

(Cancelled)

[Claim 3]

The spray can product of Claim 1, wherein the breathable cover-like member is configured with a non-woven fabric or a porous resin.

[Claim 4]

The spray can product of Claim 1 or 3, wherein the absorber is configured with a cellulose fiber aggregate whose main material is re-cycled cellulose fibers obtained by comminuting or fibrillating recycled waste-paper.

[Claim 5]

The spray can product of Claim 1, 3 or 4, wherein the cellulose fiber aggregate contains 90% by mass or more of cellulose fibers having a fiber length not exceeding 1.5 mm.

[Claim 6]

The spray can product of any one of Claims 1, and 3 to 5, wherein the liquefied gas is a combustible liquefied gas used as a blowing agent or a fuel.

[Claim 7]

The spray can product of any one of Claims 1, and 3 to 6, wherein the liquefied gas comprises a gas with zero ozone depletion potential that does not contain any hydrofluorocarbon.

[Claim 8]

The spray can product of any one of Claims 1, and 3 to 7, wherein the cellulose fiber aggregate is compression-molded into a block-like shape that corresponds to the shape of the spray can, or compression-molded into a sheet-like shape and rolled into the shape of the spray can, and directly packed into the spray can,.

[Claim 9]

The spray can product of any one of Claims 1, and 3 to 8, wherein the cellulose fiber aggregate is configured with a cellulose fiber aggregate that contains 45% by mass or more of fine cellulose fibers having a fiber length of 0.35 mm or less."

No. 4 Reasons for invalidation, a reply to the reasons for invalidation, and means of proof

1. Reasons for invalidated asserted by Demandant

In the written demand for trial, Demandant requests a trial decision to the effect that the patent for Patent Inventions 1, 2, 6, and 8 of the patent of the case before the correction should be invalidated and asserts the following reasons for invalidation 1 to 8.

(1) Reason for invalidation 1 (Article 36(6)(i) of the Patent Act)

Claims 1 and 2 before the correction have an "absorber" as a matter specifying the invention. While the absorbers in the patent inventions are only those for which recycled waste-paper is used as material, since the descriptions of the absorber in Claims 1 and 2 cover those in which no recycled waste-paper is used, the patent for inventions according to Claims 1, 2, 6, and 8 before the correction is granted to a patent application

not complying with the provisions of Article 36(6)(i) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and should be invalidated.

(2) Reason for invalidation 2 (Article 36(6)(i) of the Patent Act)

Although Claim 1 before the correction has a description, "comprising ash content in a range of 1% by weight or more but below 20% by weight" and Claim 2 before the correction has a description, "comprising ash content in a range of 1% by weight or more but below 12% by weight", since it is not described in the detailed description of the invention to make the amount of the ash content 1% by weight but below 6.6% by weight, the patent granted to inventions according to claims 1, 2, 6, and 8 before the correction was granted to a patent application that does not comply with the requirement under Article 36(6)(i) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and should be invalidated.

It is added just for confirmation that the reason why Claims 6 and 8 before the correction are included in the object of the reason for invalidation 2 is that although the written demand for trial describes the reasons for invalidation 2 on page 2, line 9 to line 6 from the bottom, and page 10, line 7 to page 11, line 5 from the bottom, but Claims 6 and 8 are not explicitly described there. However, on page 11, line 10 to line 9 from the bottom, there is a description, "accordingly, in the Invention, it is not disclosed in the description of the case that the amount of the ash content is made 6.6% by weight or less while using recycled waste-papers such as newspaper", indicating that "the Invention" is not disclosed in the description. In addition, since the written demand for trial, page 9, last line to page 10, first line, has a description, "Inventions 1, 2, 6, and 8 are collectively referred to as the Invention", it can be understood by reading those as a whole that the objects of the reason for invalidation 2 include Claims 6 and 8.

(3) Reason for invalidation 3 (Article 36(6)(ii) of the Patent Act)

Although Claim 1 before the correction has a "breathable cover-like member" as a matter specifying the invention, since the "breathable cover-like member" can diminish the advantages of the invention, and makes the inventions according to Claims 1, 2, 6, and 8 before the correction ambiguous, the patent for inventions according to Claims 1, 2, 6, and 8 is granted to a patent application that does not comply with the requirement under Article 36(6)(ii) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and should be invalidated.

It is added just for confirmation that the reason why Claims 2, 6, and 8 before the correction are included in the object of the reason for invalidation 3 is that although

the written demand for trial describes the reasons for invalidation 3 on page 2, line 5 from the bottom to page 3, first line, and page 11, line 4 from the bottom to page 13, line 6, Claims 2, 6, and 8 are not explicitly described there. However, on page 13, lines 1 to 2, there is a description, "the 'breathable cover-like member' that is a matter specifying the invention diminishes the advantages of the invention, and it makes the invention ambiguous", indicating that the Invention is ambiguous. In addition, as shown in the addition in the above (2), judging from the fact that "Inventions 1, 2, 6, and 8 are collectively referred to as the "Invention", it can be understood by reading those descriptions as a whole that the objects of the reason for invalidation 3 include Claims 2, 6, and 8.

(4) Reason for invalidation 4 (Article 36(6)(ii) of the Patent Act)

Since Claim 1 before the correction describes "production method", it does not comply with the requirement, "definiteness of the invention", the patent for the invention according to Claim 1 is granted to a patent application that does not comply with the requirement under Article 36(6)(ii) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and the patent should be invalidated.

(5) Reason for invalidation 5 (Article 36(6)(i) of the Patent Act)

According to the description in Claim 1 before collection, the "absorbers" covers absorbers formed before and after being packed into the spray can, but, since the detailed description of the invention does not describe formation of the "absorbers" after filling of the spray can, the patent for inventions according to claims 1, 2, and 6 before the correction is granted to a patent application that does not comply with the requirement under Article 36(6)(i) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and the patent should be invalidated.

(6) Reason for invalidation 6 (Article 36(6)(ii) of the Patent Act)

Since Inventions 1, 2, and 6 before the correction violate the requirement, "invention for which a patent is sought must be definite", in that their technical scope covers the case in which "absorbers" in unformed status are first packed into a spray can and, after being packed into a spray can, are set to a condition to maintain a predetermined form, the patent for inventions according to Claims 1, 2, and 6 before the correction is granted to a patent application that does not comply with the requirement under Article 36(6)(ii) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and the patent should be invalidated.

(7) Reason for invalidation 7 (Article 36(6)(ii) of the Patent Act)

Since Claim 8 before the correction describes "production method", the requirement, "definiteness of the invention" is not complied with, and the patent for inventions according to Claim 8 is granted to a patent application that does not comply with the requirement under Article 36(6)(ii) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and the patent should be invalidated.

(8) Reason for invalidation 8 (Article 29(2) of the Patent Act)

Since inventions according to Claims 1, 2, 6, and 8 before the correction could have easily been invented by a person skilled in the art based on the invention disclosed in A1 and matters described in A2 to A9, the patent for inventions according to Claims 1, 2, 6, and 8 is granted to a patent application that does not comply with the provision of Article 29(2) of the Patent Act, and falls under 123(1)(ii) of the Patent Act, and the patent should be invalidated.

2. Demandee's reply to the reasons for invalidation

In its written reply (1), Demandee sought for a trial decision to the effect that the demand for the trial for invalidation of the case is groundless.

3. Means of proof

(1) Demandant's means of proof

Demandant has submitted the following A1 to A11 together with the written demand for trial, A12 to A25 together with Demandant's statement brief (1), and A26 together with Demandant's statement brief (2) as means of proof (hereinafter, each evidence submitted by Demandant is referred to as "A1", etc.).

A1: Japanese Unexamined Patent Application Publication No. 2008-180377
A2: CD-ROM for Japanese Utility Model Application No. Hei 4-52777 (Japanese Unexamined Utility Model Application Publication No. Hei 6-7883)
A3: "JIS P8251: 2003 Kami, itagami oyobi pulp - Kaibun shiken hoho - 525°C nenshoho" (May 20, 2003, issued by Japanese Standards Association)
A4: "JIS P8252: 2003 Kami, itagami oyobi pulp - Kaibun shiken hoho - 900°C nenshoho" (May 20, 2003, issued by issued by Japanese Standards Association)
A5: Bulletin of the Shizuoka Agricultural Experiment Station. No. 27 (July 2001, issued by Shizuoka Prefectural Livestock Experiment Station)

A6: Japanese Unexamined Patent Application Publication No. 2006-328605
A7: Japanese Unexamined Patent Application Publication No. 2006-63501
A8: Japanese Unexamined Patent Application Publication No. 2008-95260
A9: Japanese Unexamined Patent Application Publication No. 2008-196090
A10: Written opinion dated August 30, 2013 for the application for a patent of the case
A11: Plaintiff's Brief (4) in Osaka District Court, Heisei 26 (Wa) Bi, 6361 (hereinafter, referred to as "Related Infringement Suit")
A12: Exhibit List of Defendant's Products attached to Request of Change in the Object of Demand dated July 31, 2015 in Related Infringement Suit
A13: B2 in Related Infringement Suit (Statement dated January 29, 2015)
A14: B7 in Related Infringement Suit (Statement (2) dated May 28, 2015)
A15: "JIS P 8204-1976 Japan Industrial Standard Seishiyo pulpno kaibun shaken hoho" (August 10, 1976, issued by issued by Japanese Standards Association)
A16: "Asahi.com Asahi shimbunkara kaisha annai Sujidemiru Asahi Shimbun" (http://wwwasahi.com/shimbun/honsya/j/number.html)
(Searched on January 18, 2017)
A17: Japanese Patent No. 3419123
A18: Japanese Unexamined Patent Application Publication No. 2008-38325
A19: "Shinbunyoshino gijutsukakushin koko 10 nen", Journal of Printing Science and Technology, Vol. 17, No. 4 (2010)
A20: "National Museum of Nature and Science, Tokyo, Gijutsuno keitoteki chosa hokoku, vol. 10, Shimbun Yoshi seizogijutsuno keitotekichosa",11 Tenkeitekina shoshikiniokeru shimbunyosiseisanno sogyokiroku, pages 51 to 57
(March 19, 2008; issued by National Museum of Nature and Science, Tokyo)
A21: "Shiryono chosei", pages 105 to 115
(April 1, 1992; issued by Japanese Technical Assoc. of the Pulp and Paper Industry -)
A22: Japanese Unexamined Patent Application Publication No. S 63-150381
A23: Japanese Patent Publication No. S 63-49119
A24: Microfilm for Japanese Utility Model Application No. S 58-29351 (Japanese Unexamined Utility Model Application Publication No. S 59-133897)
A25: Japanese Unexamined Patent Application Publication No. H 5-346200
A26: "Insatsuyogoshu", homepage of JAPAN FEDERATION OF PRINTING INDUSTRIES (http://www.jfpi.or.jp/webyogo/index.php?term=1456)
(Searched on March 9, 2017)

(2) Demandee's means of proof

Demandee has submitted the following B1 to B5 together with the written reply 1), B6 to B23 together with Demandee's statement brief (1), B24 together with Demandee's statement brief (2), and B25-1 to BB25-9, B26-1 to B26-14, B27 and B28-1 to B28-2 together with the written correction request as the means of proof (hereinafter, each evidence submitted by Demandee is referred to as "B1", etc.).

B1: Notification of reasons for refusal dated June 21, 2013 for the application of the patent of the case
B2: Written amendment dated August 30, 2013 for the application of the patent of the case
B3: Japanese Unexamined Patent Application Publication No. H 10-314583
B4: Japanese Unexamined Patent Application Publication No. 2005-8712
B5: Japanese Unexamined Patent Application Publication No. 2005-7588
B6: Request of Change in the Object of Demand dated July 31, 2015 in Related Infringement Suit
B7: Defendant's Second Brief dated March 6, 2015 in Related Infringement Suit
B8: Defendant's Fifth Brief dated August 26, 2015 in Related Infringement Suit
B9: "Mokuzaikara energy wo toridasu" (Rinsanshi dayori, July 2007 issue) (http://www.fpri.hro.or.jp/dayori/0707/2.htm)
B10: "JIS P8252: 2003 Kami, itagami oyobi pulp - Kaibun shiken hoho - 900°C nenshoho"
B11: "Himokuzaisenni riyono gennjoto shorai" (Japan TAPPI journal. Vol. 51, No. 6)
B12: Japanese Unexamined Patent Application Publication No. 2013-100623
B13: Japanese Unexamined Patent Application Publication No. 2008-248410
B14: Japanese Unexamined Patent Application Publication No. 2006-328565
B15: Japanese Unexamined Patent Application Publication No. 2009-263849
B16: Japanese Unexamined Patent Application Publication No. 2014-118638
B17: Japanese Unexamined Patent Application Publication No. 2008-274500
B18: Japanese Unexamined Patent Application Publication No. 2005-194656
B19-1: "Shimbuninsatsuno nagare" (Yomiuri Print Media Co., Ltd. HP)
(http://www.yomiuri-pm.co.jp/newspaper/)
B19-2: "Insatsuno shuryoku, Shimbun offset rintenki" (Token Corporation)
(http://www.homemate-research-newspaper-office.com/useful/12686_facil_089/)
B20: Japanese Unexamined Patent Application Publication No. 2010-236159
B21: Japanese Unexamined Patent Application Publication No. 2010-236118
B22: Japanese Unexamined Patent Application Publication No. 2015-193968

B23: Japanese Unexamined Patent Application Publication No. 2009-155787
B24: Test data report dated March 3, 2017 (Masazumi Seki, Kochi Prefectural Paper Technology Center)
B25-1: "Product safety data sheet" for "Product's name: Air Duster" (Hozan Tool Industry Co., Ltd.)
B25-2: "Product safety data sheet" for "Product's name: Non-freon blower SS-10", (Nippon STT Co., Ltd.)
B25-3: "Safety data sheet" for "Product's name: Air duster" (Plus Corporation)
B25-4: Webpage for "Air duster", (Monota RO Co., Ltd.)
(https://www.monotaro.com/g/00029486/)
B25-5: Webpage for "Air duster non-fron 350 ml" (Best Plan Chugoku Co., Ltd.)
(http://bestplan-chugoku.com/product/oasanso/eco.html)
B25-6: Drawing for product label for "Product name: Non-freon air duster" (Nakabayashi Co., Ltd.)
B25-7: Drawing for product label for "Product name: Dust blower ECO" (Elecom Co., Ltd.)
B25-8: Drawing for product label for "Product name: Air duster (eco type)" (Sanwa Supply, Inc.)
B25-9: Photograph of "Nippon Gas Co., Ltd.'s air duster", (photograph by Hiroshi Osumi)
B26-1: Japanese Unexamined Patent Application Publication No. 2017-61544
B26-2: Japanese Unexamined Patent Application Publication No. 2006-151919
B26-3: Japanese Unexamined Patent Application Publication No. 2005-179437
B26-4: Japanese Unexamined Patent Application Publication No. 2006-321814
B26-05: Japanese Unexamined Patent Application Publication No. 2005-314349
B26-6: Japanese Unexamined Patent Application Publication No. 2004-300127
B26-7: Japanese Unexamined Patent Application Publication No. 2003-1468819
B26-8: Japanese Unexamined Patent Application Publication No. 2003-12502
B26-9: Japanese Unexamined Patent Application Publication No. 2001-258921
B26-10: Japanese Unexamined Patent Application Publication No. 2000-191437
B26-11: Japanese Unexamined Patent Application Publication No. H 11-140423
B26-12: Japanese Unexamined Patent Application Publication No. H 11-246362
B26-13: Japanese Unexamined Patent Application Publication No. H 10-48133
B26-14: Japanese Unexamined Patent Application Publication No. H 9-263501
B27: Japanese Patent Publication No. S 46-20837

B28-1: "Kateiyo aerosol waterproofing spray seihintono anzensei kojonotameno jishukijun" (Aerosol Industry Association of Japan, Waterproofing Spray Committee, working group).
B28-2: "Kateiyo aerosol waterproofing spray seihintono anzensei kojonotameno jishukijun: Kateiyo aerosol waterproofing spraytono 'Fuchakuritu' anzenkakunin shiken" (Aerosol Industry Association of Japan, Waterproofing Spray Committee, working group)

No. 5 Assertions of the parties
1. Regarding the reason for invalidation 1
[Demandant]
(1) Claims 1, 2, 6, and 8 before the correction have a description "the absorber is configured with a cellulose fiber aggregate" and all absorbers configured with a cellulose fiber aggregate are covered by the technical scope of the "absorber" regardless of whether any recycled waste-paper material is used.

Judging from descriptions in paragraphs in [0013], [0014], [0016], [0017], [0027], and [0028] before the correction, however, since it is obvious that the invention described in the detailed description of the invention has the purpose of solving the problem of liquid retentivity in using recycled waste-paper material for the absorber to provide inexpensive spray cans and delivers such advantages, the detailed description of the invention describes only the "absorbers" for which recycled waste-paper material is used.

Accordingly, the inventions according to Claims 1, 2, 6, and 8 before the correction violate the requirement, "the invention for which a patent is sought is stated in the detailed description of the invention" under Article 36(6)(i) of the Patent Act in that the descriptions in Claims 1, 2, 6, and 8 before the correction cover absorbers that do not use any recycled waste-paper material (Written demand, page 8, line 6 to page 10, line 6).

(2) It is obvious from descriptions in paragraphs [0016], [0017], and [0027] before the correction, etc. that the problem to be solved by the patent inventions is to solve the problem of liquid retentivity when used for absorbers limited to "recycled waste-paper material", and provide inexpensive spray cans.

Accordingly, Demandee's assertion that, since the detailed description of the invention describes a case in which LBKP is used, the problem to be solved by the patent invention is not such that what is described above is groundless (written refutation, page 8, line 10 to page 9, line 8).

(3) The detailed description of the invention before the correction describes only the relation between recycled waste-paper material and ash content (paragraph [0017]) and describes nothing about LBKP (Demandant's statement brief (1), page 11, No. 8 to the last line).

[Demandee]
(1) While, on one hand, it is clearly stated in paragraph [0048], etc. that any cellulose fiber other than recycled waste-paper material can be used, on the other hand, recycled waste-paper material is described just as a "preferred example".

A patent of the case discovered a technical finding that is not covered by prior art that the performance of absorbers largely depends on ash content, and it is obvious that the finding is not limited only to the cases in which recycled waste-paper material is used, but with any absorber consisting of cellulose fiber, and a person skilled in the art can recognize that the problem to be solved by the patent invention is solved so long as the percent of the ash content is adjusted to a predetermined numerical range.

In fact, it is clearly disclosed in the detailed description of the invention that, with respect to absorbers for which LBKP that is not recycled waste-paper material is used, so long as the percent of the ash content is adjusted to 1.0% by weight, absorbers have a sufficient performance for retaining liquid and the absorbers can solve the problem to be solved by the patent invention (Sample F in [Table 1] in paragraph [0088]).

Therefore, reason for invalidation 1 is groundless (written reply (1), page 16, line 10 from the bottom to page 17, line 11 from the bottom).

(2) The problem to be solved by the patent invention is "to obtain absorbers that do not require use of any expensive material or complicated manufacturing process, and have excellent absorbability and retainability for liquefied gas, in which liquid leak can be prevented during use or storage in an inclined or inverted state, and to realize a spray can product that ensures safety and liquid retentivity at low cost" (paragraph [0016]), etc., and is not limited to improvement in performance for retaining liquid when recycled waste-paper material is used (Written reply (2), page 6, line 13 to page 7, line 19).

2. Regarding reason for invalidation 2
[Demandant]
(1) Claim 1 of the patent of the case before the correction describes "the absorber comprises ash content in the range of 1% by weight or more but below 20% by weight", and Claim 2 before the correction describes "the absorber comprises ash content in the

range of 1% by weight or more but below 12% by weight", and absorbers having the percent of the ash content of 1% by weight or more but below 20% by weight, or 1% by weight or more but below 12% by weight are covered by the technical scope.

On the other hand, Table 1 in paragraph [0088] in the detailed description of the invention in the patent specification states that the ash content is made 6.6% (sample A) using recycled newspaper and that, by using newspaper/advertising leaflets and/or reclaimed paper, the ash content is made respectively 11.2% (sample B), 16.9% (sample C), and 12.3% (samples E and G), but there is no description that mentions "the range of 1% by weight or more but below 6.6% by weight."

In addition, the detailed description of the invention does not have any description that shows the relation between the time in which spraying can be continued without any liquid leak in an inverted state, or the number of samples that do not have liquid leak for 30 seconds or longer and the percent of the ash content; namely, advantages of the invention.

Accordingly, in claims 1, 2, 6, and 8 before the correction, the description of the case does not disclose making the percent of the ash content 6.6% by weight or less under using recycled waste-paper such as newspaper and it can be deemed that the patent for inventions according to Claims 1, 2, 6, and 8 is granted to a patent application that does not comply with the requirement under Article 36(6)(i) of the Patent Act and such patent should be invalidated (Written demand, page 10, line 7 to page 11, line 5 from the bottom).

(2) Judging from the problem to be solved by the patent invention, since the "cellulose fiber aggregate" is limited to those for which recycled waste-paper material is used, Demandant's assertion that LBKP is included ([Demandee] (1) below) is groundless.

Since sample F in paragraph [0088] does not use any recycled waste-paper material or the cellulose fiber aggregate, it cannot be deemed to be a working example of the Invention.

Demandee asserts that sample F is a working example of the patent invention ([Demandee] (1) below), but, since there is no description of which of samples A to F in Table 1 in paragraph [0088] are working examples, and since a sample that is apparently not any working example, for example, sample D is included, the assertion that sample F is a working example is not correct.

Furthermore, judging from the fact that only 7 samples out of 10 samples obtained "○" in judgment on liquid leak (no liquid leak occurs for 30 seconds or more) and 3 samples could not obtain "○", sample F is not a working example and Demandee's

assertion is also incorrect in this regard (Demandant's written refutation, page 9, line 9 to page 11, last line).

(3) With respect to sample F, Demandee asserts that "if liquid retention time is 22.7 seconds on average, it is sufficient as liquid retentivity of absorbers for spray can products" ([Demandee] (2) below), but, it contradict the description, "it can be deemed to be a sufficient performance for ordinary use for dust removing purpose if spraying can be maintained in an inverted state for 30 seconds or more without liquid leak" in paragraph [0086].

In addition, in sample F, judgment on 7 samples out of 10 samples was "○", and the total retention time for 10 samples was 227 seconds. Then, the average retention time of the failed 3 samples is very short, at 5.7 seconds.
(227 seconds - 7 x 30 seconds)/3 = 5.7 seconds
It is obvious that sample F that includes 30% of samples in which liquid leak occurs in such a short time that it cannot be deemed as a working example (Demandant's statement brief (1), page 12, line 1 to page 13, line 11).

(4) Demandee's assertion in the oral proceedings statement brief (2) submitted by Demandee, page 5, (2), "30 seconds or more" is a mistake for "20 seconds" ([Demandee] (5) below) is understood to be applicable to the entirety of paragraphs [0086] and [0088]. Then, a contradiction among samples A, B, and F in Table 1 in the patent specification occurs ("Demandant 4" in the record of the first oral proceedings).

[Demandee]
(1) Although Demandant's assertion with respect to the reason for invalidation 2 is not clear, it seems that Demandant intends to assert that, although the detailed description of the invention states that recycled waste-paper material is used, no working example is described in which the range is "1% by weight or more but below 6.6% by weight."

The "cellulose fiber aggregate" in the patent invention covers any aggregate of cellulose fiber, and naturally it covers LBKP. Paragraph [0088] clearly discloses that a working example in which the absorber consisting of LBKP whose percent of the ash content is 1.0% by weight is provided with a cover-like member delivered sufficient advantages such that the number of samples that could maintain spraying for 30 seconds or more without liquid leak was 7, and spraying in the inverted state without liquid leak could be maintained for 227 seconds.

As described above, since a person skilled in the art could sufficiently understand that the operational advantages of the patent invention can be obtained with respect to "1% by weight or more but below 6.6% by weight", the reason for invalidation 2 asserted by Demandant is groundless (Written reply (1), page 17, line 10 from the bottom to page 18, line 12 from the bottom).

(2) Demandant asserts that sample F in paragraph [0088] is not a working example of the patent invention, but, if it is true, since there could be no working example for samples I and J that were manufactured "for examining the effect of the cover-like member", it is obvious that Demandant's assertion is not reasonable.

Demandant asserts with respect to sample F that, since there are only 7 samples that obtained "○" in the judgment on liquid leak (no liquid leak for 30 seconds or more), sample F cannot be a working example of the patent invention. However, 30 seconds means that it is difficult to continue holding the can with a bare hand longer than that, and it is sufficient if it can be retained for 30 seconds or more. In fact, since it is seldom that the time of use at a time reaches 20 seconds or more (paragraph [0086]), if average liquid retaining time is 22.7 seconds, it is sufficient as liquid retentivity for a spray can product, and the above assertion by Demandant is groundless (Written reply (2), page 7, line 20 to page 8, line 12 from the bottom).

(3) Correspondence relation between samples A to J described in paragraphs [0081] to [0091] in patent specification and patent inventions before the correction is as follows:

試料	請求項１ないし８との対応関係	対応しない請求項とその理由
試料A	請求項１～８全て	—
試料B	請求項１～８全て	—
試料C	請求項１，請求項３～８	請求項２につき灰分が数値範囲外
試料D	いずれにも対応しない	灰分が請求項１の数値範囲外
試料E	請求項１，請求項３～８	請求項２につき灰分が数値範囲外
試料F	請求項１～３，請求項５～８	請求項４につき古紙原料でないため
試料G	請求項１，請求項３～７	請求項２につき灰分が数値範囲外 請求項８につき吸収体を直接充填していないため
試料H	いずれにも対応しない	蓋状部材がないため
試料I	請求項１～３，請求項５～７	請求項４につき古紙原料でないため 請求項８につき吸収体を直接充填していないため
試料J	いずれにも対応しない	蓋状部材がないため

試料　Sample
請求項１ないし８との対応関係　Correspondence relation with Claims 1 to 8
対応しない請求項とその理由　Non-corresponding claims and the reasons
請求項１～８全て　All Claims 1 to 8
請求項１、請求項３～８　Claims 1, and 3 to 8
いずれにも対応しない　Does not correspond to any
請求項１～３、請求項５～８　Claims 1 to 3 and 5 to 8
請求項１、請求項３～７　Claims 1, and 3 to 7
請求項１～３、請求項５～７　Claims 1 to 3 and 5 to 7
請求項２につき灰分が数値範囲外　In Claim 2, ash content is outside of the numerical range
灰分が請求項１の数値範囲外　Ash content is outside of the numerical range
請求項４につき古紙原料でないため　For Claim 4, since material is not recycled waste-paper material
請求項８につき吸収体を直接充填していないため　For Claim 8, since the absorber is not directly filled
蓋状部材がないため　Since there is no cover-like member

(Demandee's statement brief (1), page 5, line 3 from the bottom to the table on the top of page 6)

(4) According to the patent specification, on the one hand, it is explained that spray can products "have a risk of leakage of the liquefied gas from the spraying nozzle as a liquid" (paragraph [0008]), but, on the other hand, it is explained that "it is seldom that spraying at a time under ordinary use continues for 20 seconds or more" (paragraph [0086]), (with respect to the percent of the ash content) "it is possible to realize a retention time of around 150 seconds or more by adjusting the ash content to ... below 20% by weight" and "it is possible to make the retention time around 200 seconds or more by making the percent of the ash content below 12% by weight" (note by author: the optimum value) (paragraph [0091]).

In addition, from the facts that samples C and E before the correction in which the average retention time of 10 samples is 15 seconds or more are pointed out as working examples of the patent invention before the correction, and that samples A, B, and F in which the average retention time is 20 seconds or more are pointed out as optimum examples (paragraphs [0088], [0091] and [Fig. 6]) etc., a person skilled in the art can understand that, in the patent specification of the case, the minimum level is not to have liquid leak for 15 seconds in the inverted state and it is evaluated as sufficient for absorbers for spray cans if liquefied gas can be retained for 20 seconds without liquid leak.

Furthermore, paragraph [0086] has a description, "in particular in a case that spraying continues for 30 seconds or more, it becomes difficult to hold the can with a bare hand because of temperature drop by heat of evaporation, and if spraying can be maintained for 30 seconds or more in an inverted state without liquid leak, it can be deemed to be a sufficient performance for normal dust removing purpose", but, if continuously used for 30 seconds, "it becomes difficult to hold the can with a bare hand, and, since it is unreasonable not to judge as "○" unless liquid leak can be prevented under such extreme condition, it is understood that the description explains the reason why 30 seconds or more is not measured, and the criterion for whether performance is sufficient as an absorber in the patent specification of the case is not 30 seconds, but 20 seconds (15 seconds at a minimum) (Demandee's statement brief (2), page 2, line 7 from the bottom to page 5, line 8).

(5) Judging from the patent specification of the case, since the criterion for whether performance is sufficient as an absorber for a spray can product is not 30 seconds, but 20 seconds (15 seconds at a minimum), it is obvious that all descriptions, "30 seconds or more" described as a criterion for the judgment as "○" for "*1" and "*2" in paragraph [0088] are mistakes for "20 seconds or more, and that "30 seconds" in the description in

paragraph [0086], "Table 1 shows the number of samples out of 10 samples that could maintain jetting for 30 seconds or more in the inverted state, and the sum of retention time of 10 samples" is a mistake for "20 seconds."

Looking at sample F based on such a premise, if the average for 7 samples that were evaluated as "○" is, for example, 25 seconds, the average of the remaining 3 samples is about 17 seconds ([227 - 25 x 7]/3 = 17.33 ...), and it can be evaluated that although it does not reach 20 seconds that is accepted as a sufficient performance, it exceeds the minimum level, 15 seconds, and it has sufficient performance.

On the other hand, if criterion should be 30 seconds, as pointed out by Demandant ([Demandant] (3) above), absorbers for which average liquid retaining time is 5.7 seconds on average are included in working examples of the patent invention in sample F, and this does not match the description in the patent specification; "30 seconds" in paragraphs [0086] and [0088] in the patent specification is a mistake for "20 seconds" (Demandee's statement brief (2), page 5, line 9 to the last line).

(6) A1 is a publication for a patent application filed by Demandee, and the disclosed invention is for obtaining "an absorber that has better absorption performance and liquid retaining property" (paragraph [0004]), the same as the patent invention. In addition, A1 clearly states that the criterion is "20 seconds or more" with descriptions, "Absorbers for which time until liquid leak occurs is 20 seconds or more can be used as absorbers for spray cans for dust blowers or torch burners and marked with ○" (paragraph [0051]), and "it is seldom the case that spraying at a time under ordinary use continues for 20 seconds or more, in particular in case that spraying continues for 30 seconds or more, it becomes difficult to hold the can with a bare hand because of temperature drop by heat of evaporation, and if spraying can be maintained for 30 seconds or more in an inverted state without liquid leak, it can be deemed a sufficient performance for normal dust removing purpose" (paragraph [0054]), and, since the invention according to A1 and the patent invention relate to absorbers that have sufficient liquid retaining performance and the absorber that has liquid retaining performance, and the criteria for liquid retaining performance cannot be different between them, the mistake mentioned in above (5) is obvious even from description in A1 (Demandee's statement brief (2), page 6, line 1 to the last line).

(7) The assertion in the oral proceedings statement brief (2) dated March 16, 2017, page 5, (2) ((5) above) is a mistake of only "30 seconds" in the description "Table 1 shows ...

the sum of retention time ..." in [0086] (Record of the first oral proceedings, "Demandee 4").

(8) Based on common general technical knowledge of a person skilled in the art as of filing of the application for the patent of the case (B25-1 or B9, B26-1 or B14, B27, as well as B28-1 and B28-2), the spray time normally expected for a spray can product is 5 seconds at the longest, and since absorbers can be subjected to ordinary use if no liquid leak occurs for around 5 seconds in the inclined or inverted state, it is not recognized that the problem to be solved by the patent invention cannot be solved unless individual samples in the working examples in the patent specification can prevent liquid leak for 30 seconds or a similar time. The description, "30 seconds" in paragraphs [0086] and [0088] in the patent specification is an unnecessarily tough standard, and is considered to be a mistake for "20 seconds", and, even if it is not accepted as a mistake, based on common general technical knowledge of a person skilled in the art, violation of the support requirement is sufficiently resolved (Written correction request, page 12, line 3 to page 13, line 6, and Demandee's written opinion (2), page 2, line 14 to page 3, line 9).

(9) In the first place, as a statement in the description for complying with the support requirement, "it should be judged by examining whether it is within the scope in which a person skilled in the art can recognize that the problem to be solved by the invention can be solved with the description in the detailed description of the invention, and even if the description or suggestion does not exist, a person skilled in the art can recognize that the problem to be solved by the invention can be solved in the light of common general technical knowledge as of the time of filing the patent application" (Decision of November 11, 2005 by the Intellectual Property High Court, Hanreijiho No. 1911, page 48, "Case of a parameter patent"), and if there is any description with which a person skilled in the art can recognize that the problem to be solved by the invention can be solved, the advantages "need not be backed up with concrete measurement result" (Decision of September 29, 2009 by the Intellectual Property High Court, homepage of the Court, "Case of lead-free solder"), and even if disclosure with working examples is not much, it cannot be any reason for denying satisfaction of the support requirement (Decision of February 10, 2011 by the Intellectual Property High Court, Court's HP "Case of silane coupling agent") (Demandee's written opinion (2), page 3, line 26 to page 4, line 4).

(10) Since spray time of a spray can product is around 5 seconds at the longest, it is a matter of common general technical knowledge in the field of spray can products that it is sufficient for ordinary use if no liquid leak occurs for around 5 seconds even in the inverted state, and, since it is obvious that, in the patent specification, since it is shown that samples A, B, and F for which only ash content in absorbers is adjusted to the range of 1% by weight or more to 12% by weight have the total retention time for 10 samples of 200 second or more (20 seconds or more on an average), it is obvious that a person skilled in the art can recognize with samples A, B, and F that are working examples of the patent invention that the problem to be solved by the invention can be solved (Demandee's written opinion (2), page 4, lines 7 to 26).

(11) Since it is a matter of common general technical knowledge in the field of spray can products that it is sufficient for ordinary use if no liquid leak occurs for around 5 seconds even in inverted state, pass/fail criterion of 30 seconds exceeds the extent to withstand ordinary use and merely means that "liquid leak evaluation test is conducted with an intention to lower the possibility of liquid leak." It does not mean that if any absorber cannot pass this, such absorber cannot withstand ordinary use.

In the patent specification, 1 absorber that failed has a retention time of 10 seconds in sample A, the average for 4 failed absorbers is 8.25 seconds in sample B, and the average for 3 failed absorbers is about 5.7 seconds in sample F, and, since all of those absorbers have quality to withstand ordinary use, it cannot be deemed that a person skilled in the art who accessed the test results for samples A, B, and F cannot recognize that the invention can solve the problem just because a part of samples have retention time below 30 seconds.

In particular, with respect to absorbers that consist of aggregate of cellulose fibers, since it is easily imagined that there is variation in data because of factors other than the percent of the ash content such as heterogeneous filling conditions and quality (degree of wear, flexibility, and strong tensility) of fibers that compose the absorber, it cannot be immediately deemed that a person skilled in the art cannot recognize that samples A, B, and F can solve the problem just because a part of samples include such sample as mentioned above while many samples have a retention time exceeding 30 seconds, and the total retention time exceeds 200 seconds in samples A, B, and F (Demandee's written opinion (2), page 4, line 29 to page 5, line 22).

3. Regarding the reason for invalidation 3

[Demandant]

(1) Inventions according to claims 1, 2, 6, and 8 before the correction have a "breathable cover-like member" as a matter specifying the invention, and paragraphs [0030], [0042], and [0066] in the detailed description of the invention mention that the effect of preventing leak of liquefied gas is improved. According to [Table 1] in paragraph [0088], since samples H and J that are not provided with any cover-like member have better results than samples A to F that are provided with a cover-like member, a "breathable cover-like member" diminished advantages of the invention and made invention according to claims 1, 2, 6, and 8 before the correction ambiguous (Written demand, page 11, line 4 from the bottom to page 13, line 6).

(2) Demandant does not assert that the technical meaning of "breathable cover-like member" is not shown, and the following refutation by [Demandee] (1) is not justifiable.

In addition, as seen in samples E and G before the correction, Demandee's assertion that, even if absorbers are packed without covering with bags of non-woven fabric, approximately the same advantages as obtained from absorbers covered by bags of non-woven fabric can be obtained is not justifiable (Written refutation, page 13, line 1 to page 14, line 9 from the bottom).

(3) Notwithstanding that it was stated in paragraph [0086] that the performance of the patent invention is that there is no liquid leak for 30 seconds, samples C and E before the correction in which only 4 absorbers do not have liquid leak for 30 seconds or more are taken as working examples, and sample D in which 3 absorbers do not have liquid leak for 30 seconds or more is excluded from working examples. The contents of inventions according to claims 1, 2, 6, and 8 are quite ambiguous (Demandant's statement brief (1), page 14, line 1 to the last page).

[Demandee]

(1) Purport of Demandant's assertion is not clear, but it seems to mean that the claim language does not indicate technical meaning of "breathable cover-like member."

If what the description, "breathable cover-like member" means is clear per se, however, the requirement for clarity under Article 36(6)(ii) of the Patent Act is satisfied and Demandant's assertion of violation of the requirement for clarity for the reason that technical meaning in relation to the invention is not shown is not justifiable.

In addition, comparison between samples A to F and samples G to J shows that even if absorbers are packed without covering with bags of non-woven fabric, almost the same advantages as in the case in which absorbers are covered with bags of non-woven

fabric can be obtained, and it is nothing but a proof of advantages of the invention (Written reply (1), page 21, line 9 from the bottom to page 23, last line).

(2) Although Demandant argues with respect to samples E and G before the correction ([Demandant] (2) above)), it is natural that liquid retaining performance is improved after being subjected to complicated process of putting in bags of non-woven fabric. With respect to sample A, it is disclosed that even if fibers are not packed into bags of non-woven fabric, almost the same result as in the case fibers are not packed into bags of non-woven fabric can be obtained (Written reply (2), page 9, line 6 from the bottom to page 10, line 10 from the bottom).

(3) Demandant asserts that the content of the invention becomes ambiguous because sample D is excluded from working examples while samples C and E before the correction are taken as working examples ([Demandant] (3) above), but it is stated in the patent specification that the minimum level is satisfied if no liquid leak occurs for 15 seconds, and it is a sufficient performance if no liquid leak occurs for 20 seconds (2 above, [Demandee] (4)). While samples C and E before the correction respectively as a whole satisfy the minimum level of 15 seconds x 10 = 150 seconds, the total time of sample D is below 150 and does not satisfy the minimum level, and, therefore the patent specification that takes samples C and E before the correction as working examples of the patent invention while excluding sample D from working examples is not ambiguous at all (Demandee's statement brief (2), page 11, lines 2 to 22).

4. Regarding the reason for invalidation 4
[Demandant]
(1) The descriptions in Claim 1 before the correction, "formed to correspond to the form of the spray can" and "the cover-like member is ... press-fitted into the spray can and closely contacting the surface of the absorber" are descriptions of the "production method", and, based on the indication of the decision by the Supreme Court, since there is no situation that it is impossible to specify the configuration of the absorber with respect to Claim 1, the description in Claim 1 violates the requirement for "definiteness of the invention" (Written demand, page 13, line 7 to page 15, last line).

(2) In the Related Infringement Suit, since Demandee asserted with respect to the description "packed as a formed body in the shape corresponding to the shape of the spray can in advance" in the written opinion dated August 30, 2013 for the application for the

patent of the case (A10, page 2) that it is "a description to show temporal order of the packing of the absorber and arrangement of the cover-like member" (after packing the absorber, the cover-like member is arranged) (A11, page 8), violation of the requirement for "definiteness of the invention" by the invention according to Claim 1 before the correction is obvious (Written refutation, page 14, line 8 from the bottom to page 15, last line).

[Demandee]
(1) Since all descriptions in Claim 1 before the correction pointed out by Demandant just specify the structure or property of the object by describing the "state", Demandant's assertion is completely groundless (Written reply (1), page 24, line 1 to page 25, line 19).

5. Regarding the reason for invalidation 5
[Demandant]
(1) It is understood that both of absorbers for which timing of forming is before and after packing into the spray can are covered by the technical scope of inventions according to Claims 1, 2, and 6 before the correction, but, since the inventions disclosed in the detailed description of the invention are only those "formed" in predetermined shape in the step before packing into the spray can, descriptions in Claims 1, 2, and 6 violate the requirement that "The invention for which a patent is sought is stated in the detailed description of the invention" (Written demand, page 16, line 1 to page 17, line 14).

(2) The second method pointed out by Demandee ([Demandee] (1) below) is a method to "form in advance to a shape that corresponds to the shape of the spray can" the same as in the first method. On the other hand, Demandee asserts that a third method is described in paragraph [0011], but, since the description relates to a resin foam and it does not fall under methods to pack a cellulose fiber aggregate, Demandee's explanation is groundless (Written refutation, page 12, lines 1 to 22, and Demandant's statement brief (1), page 13, line 12 to the last page).

[Demandee]
(1) With respect to the method for packing the absorber, the detailed description of the invention clearly states that "the method for packing the cellulose fiber aggregate into the spray can 1 may be arbitrarily chosen" (paragraph [0054]).

On the other hand, with respect to the methods for packing the absorber, there can be thought of

First method: A method to compression mold into a cylindrical block corresponding to the "inner diameter of the spray can" and pack directly into the spray can,

Second method: A method to pressure compression mold to match the "inner diameter of the opening of the top of the spray can", and repeat packing from the top, and

Third method: A method, without any advance compression molding process, to pack into the spray can,

and the first method is described in Claim 8 before the correction, the second method is described in paragraph [0080]: The third method is also conceivable (paragraph [0011], etc.), and it can be "arbitrarily selected" (Written reply (1), page 18, line 11 from the bottom to page 21, line 7).

(2) The method to pack the absorber, without any advance compression molding process, into the spray can is disclosed in paragraph [0080] and Fig. 4, paragraph [0011], etc. (Written reply (2), page 8, line 11 from the bottom to page 9, line 6).

(3) Demandant asserts that packing the absorber by matching to the "inner diameter of the opening" in the second method falls under "to form into an inner diameter corresponding to the shape of the spray can" ([Demandant] (2) above), but it mixes up the opening of the spray can with the shape of the spray can itself, and such assertion is groundless (Demandee's statement brief (2), page 10, line 7 from the bottom to page 11, line 1).

6. Regarding the reason for invalidation 6

[Demandant]

It is understood that both of absorbers whose timings of forming are before and after packing into the spray can, respectively, are covered by the technical scope of inventions according to Claims 1, 2, and 6 before the correction, but, since the inventions disclosed in the detailed description of the invention describe only those "formed" in predetermined shape in the step before packing into the spray can, descriptions in Claims 1, 2, and 6 cannot be deemed to satisfy the requirement that "The invention for which a patent is sought is stated in the detailed description of the invention", unless Claims 1, 2, and 6 are described so that it can be clearly grasped that, in the inventions, the "absorber" is "formed" into a predetermined shape in the step before packing the "absorber" into the spray can and the formed absorber is packed into the spray can (Written demand, page 17, line 15 to page 18, line 11, and written refutation, page 16, lines 1 to 14).

[Demandee]

Demandant's assertion is a mere repetition of Demandant's assertion in the reason for invalidation 5 as it is, and mixes up violation of the support requirement with the violation of the requirement for clarity, and such assertion is not justifiable (Written reply (1), page 25, line 20 to page 26, line 2).

7. Regarding the reason for invalidation 7

[Demandant]

(1) The description in Claim 8 before the correction, "compression-molded into a block-like shape ..., or compression-molded into a sheet-like shape and rolled into the shape of the spray can, and packed directly into the spray can" is a description for limiting the "production method" of the "spray can product", and, since there is no situation where it is impossible to specify the configuration of the cellulose fiber aggregate, the description in Claim 8 violates the requirement for "definiteness of the invention" (Written demand, page 18, line 12 to the last line).

[Demandee]

With respect to Claim 8 before the correction, it was corrected by the request for correction made on July 29, 2016 from an "invention of a product" to a "method for producing a product". Though the request for correction was rejected for a reason described in the notice of reasons for refusal of correction dated October 18, 2016 that Claim 8 is not any PBP claim that should be examined in relation to Article 36(6)(ii) of the Patent Act, Demandee has no objection against the refusal (Demandee's written opinion, page 2, lines 2 to 10).4)

8. Regarding the reason for invalidation 8

[Demandant]

(1) Since ash content of papers made from unused pulp such as LBKP is 0.1 to 3.06% (A3, 4), "configured with a cellulose fiber aggregate comprising ash content in a range of 1% by weight or more but below 12% by weight" in Patent Invention 1 before the correction is an inevitable result if LBKP is used for absorbers and it is just an obvious matter.

Comparing samples E, G, and H that have same percent of the ash content among working examples disclosed in Table 1 in the patent specification before the correction, there are large differences in results and, since no correlation between ash content and

water absorption rate is found by referring to A5, a matter specifying the invention of 1 to 20% of ash content has no significance of critical range and it is a mere description of well-known rate of ash content and an obvious matter to a person skilled in the art.

It is a matter that a person skilled in the art can easily carry out to make the "breathable cover-like member" by applying the "open-cell packing" described in A2 to the invention disclosed in A1 (hereinafter, referred to as "Invention A1"), and it is a matter that a person skilled in the art can appropriate carry out to closely contact with the surface of the absorber (Written demand, page 29, line 12 to page 31, line 9).

(2) Demandee asserts that the relationship between the liquid retaining performance and the ash content in absorbers is a new finding, but, comparing samples E, G, and H in the patent specification before the correction, since the number of samples in which no liquid leak occurred in 30 seconds or more and the total retention time of samples varies widely, there is no correlation between the ash content and resistance against liquid leak, and, with respect to samples B and E before the correction, the difference from sample D that does not satisfy the matter specifying the invention of the patent invention is not significant, and the numerical range of the ash content has no significance of critical range and is merely an obvious percent of the ash content to a person skilled in the art.

On the other hand, even if attention is focused on the ash content for improving the liquid retaining performance, since the percent of the ash content in the patent invention has no difference compared to the ash content of conventional cellulose fiber aggregate, the numerical values are merely numerical values obtained by analyzing the ash content of conventional cellulose fiber aggregates and cannot fall under any invention.

In addition, since Invention A1 has a description in the effect that the problem to be solved by the invention is liquid leak and A2 has a description to the effect that liquid leak can be prevented, no difficulty is acknowledged in applying "open-cell packing" of A2 to Invention A1 (Written refutation, page 17, line 11 from the bottom to page 30, line 7).

(3) As described in A21 and A22, the relationship between the amount of the ash content and the performances of the absorber is not any new matter, and, as seen in A3 to A9, it is obvious that, in paper for newspapers and pulp generally used as of the filing of the present case, the amount of the ash content was 1% by weight or more but below 20% by weight.

In addition, it is a normally known art to provide an absorber in a gas cylinder or a spray can that retains absorbed liquid with a breathable cover-like member to prevent

liquid flow and liquid leak, and there is a motivation to combine Invention A1 with the "open-cell packing 4" of A2 (Demandant's statement brief (1), page 15, line 6 to page 17, last line).

(4) The percent of the ash content of commonly-used paper for newspaper as of filing of the application for the patent of the case did not exceed 20% by weight (Demandant's statement brief (2), page 4, line 1 to page 6, line 12).

(5) Demandee asserts that Demandee found a viewpoint of "the liquid retaining performance of absorbers is determined by the amount of the ash content of the cellulose fiber aggregate", but Demandee has not stated the concrete contents; namely, what happens to the liquid retaining performance if the amount of the ash content increases.

Paragraph [0046] of the patent specification recites "the ash content in the absorber 2, ... is considered to improve liquid retention capacity. If the percent of the ash content is below 1% by weight, such advantage cannot be obtained, and the advantage increases if the content increases, but, if it exceeds 25% by weight, cellulose fiber aggregate tends to become hard and fragile, resulting in occurrence of longitudinal or transverse cracks and penetration of liquefied gas tends to get interrupted", and it can be understood that the liquid retaining performance is improved as the amount of the ash content increases until the amount of the ash content reaches 25% by weight.

On the other hand, paragraph [0091] in the patent specification recites "in addition, there is a tendency that the retention time becomes longer if the percent of the ash content becomes smaller, and it is possible to make the retention time around 200 seconds or more by making the percent of the ash content, for example, 12% by weight", and, contrary to paragraph [0046], it mentioned that the lower the percent of the ash content, the longer the retention time tends to become.

Judging from the above, the matter asserted by Demandee, "the liquid retaining performance of absorbers is determined by the amount of the ash content of the cellulose fiber aggregate", is contradictory matter in the patent specification per se.

Furthermore, Demandee asserts that samples C and E (4 absorbers were judged as ○ in both) and sample D (3 absorbers were judged as ○) before the correction are comparative examples, but it is impossible to believe that the test samples in which 60% failed and the test samples in which 70% failed show the border between working examples and comparative examples.

Comparing samples C and E before the correction and sample D before the correction, Demandee's assertion that "the liquid retaining performance of absorbers is

determined by the amount of the ash content of the cellulose fiber aggregate" cannot be accepted (Demandant's statement brief (2), page 6, line 5 from the bottom to page 8, line 6).

[Demandee]
(1) The percent of the ash content in samples described in A3 to A9 are merely such values that happened to be obtained when the amount of the ash content in each sample was measured, and they do not generally show the value of the ash content in cellulose fiber aggregates.

Patent Invention 1 before the correction is based on a new finding, that the liquid retaining performance depends on the ash content, but A1 to A9 neither describe nor suggest the viewpoint to focus attention on the ash content in relation to the task to improve the liquid retaining performance of the absorber. Therefore, even if any numerical value of the ash content is disclosed in A3 to A9, as far as the viewpoint to adjust the amount of the ash content in order to improve the liquid retaining performance has not been disclosed in well-known arts, in the first place, there is no motivation to limit the numerical range of the ash content, and, in such case in which inventive step is acknowledged in matters other than numerical value, concrete numerical values do not need to have any significance of critical range.

Furthermore, in addition to the fact that no concrete configuration of the "open-cell packing 4" in A2 has been disclosed, no absorber is contained in the spray can in A2 and the "open-cell packing 4" in A2 does not correspond to the "breathable cover-like member" in Patent Invention 1 before correction, and the problem to be solved by Invention A1 is to obtain absorbers for spray cans with excellent absorption property and liquid retaining property, but, since the spray can of A2 does not contain any absorber, there is no motivation to combine Invention A1 with the "open-cell packing 4" in A2. Still further, if the "open-cell packing 4" has an elaborate structure that prevents from "spraying non-combustible liquid as liquid", its "breathability" is not sufficient and there is a disincentive in spraying blowing agent that is absorbed in the absorber as in Patent Invention 1 (Written reply (1), page 29, line 10 from the bottom to page 34, line 10).

(2) Particularly, according to [Table 1] and [Fig. 6] in the patent specification, with respect to samples D, C, B, and A before the correction, there is a tendency that the smaller the amount of the ash content, the longer the retention time, and it is difficult with recycled waste-paper material to adjust to a value smaller than 1% by weight in sample F, and the

liquid retaining performance also decreases. As described above, correlation between the amount of the ash content and the liquid retentivity of the absorber is clearly shown.

In addition, in A3 to A9 that have been collected by Demandant, the ash content is artificially adjusted for various purposes, and it is impossible to find, based on those evidences, that it is a well-known art to adjust the percent of the ash content in absorbers made of cellulose fiber aggregates to 1% by weight or more but below 20% by weight.

On the other hand, the "open-cell packing" in A2 does not correspond to the "breathable cover-like member" of Patent Invention 1, and even if Invention A1 is combined with the "open-cell packing 4" of A2, the configuration of Patent Invention 1 is not obtained, and there is no motivation for combining the "open-cell packing 4" in A2 that has no technical relationship with absorbers (Written reply (2), page 10 line 9 from the bottom to page 17, line 8 from the bottom).

(3) The material for samples F, I, and J is "commercially available LBKP", and measurement of its percent of the ash content revealed that the ash content is 1.0%. Accordingly, LBKP in the commercially available LBKP obtained and measured by Demandee was 99% by weight or less.

Unused wooden pulp also contains ash content, and the reason thereof is inorganic components included in wood chips that are material for LBKP (B9), and there is a possibility that ash content is contained in the process of chemical treatment of the chips. In fact, the average ash content in hardwood kraft pulp that is unused wooden pulp is 0.5% (B10), and there is a description that shows the ash content of 0.1 to 2.0% as chemical composition of the material, hardwood timbers (B11). While the material for samples F, I, and J in the patent specification is "commercially available LBKP", since there are various grades of commercially available LBKPs and the percent of the ash content also varies, with respect to "commercially available LBKP", the amount of the ash content can be 1% by weight or another numerical value

Since the percent of the ash content of unused wooden pulp also varies, and there can be various pulps with the amount of the ash content below 1% by weight, sufficient technical significance can be acknowledged for limiting the lower limit value of the amount of the ash content for recognizable advantages of the invention to 1% by weight of more (Demandee's statement brief (1), page 6, line 16 from the bottom to page 8, line 5).

(4) The amount of the ash content of LBKP of A1 and recycled newspaper is completely unknown, and nowhere in A1 to A9 describes or suggests the viewpoint that the liquid

retaining performance of absorbers is determined by the value of the ash content, in order to start from Invention A1 and adjust the amount of the ash content to the numerical range of Patent Invention 1 before correction, twofold inventions are required, after finding out technical knowledge that "the performance of the absorber depends greatly on the ash content", and, based on the technical knowledge, limitting to concrete numerical range.

With respect to judgment on easiness to conceive of such inventions defined by a numerical limitation, it has been judged in court cases that even if the art contained in the numerical limitation exists as a well-known art, the patent invention does not lack inventive step just by that, and, furthermore, it is understood that it is required that motivation for focusing attention on the numerical limitation and the means to achieve the numerical limitation are disclosed in publicly known arts.

However, since A1 to A9 have neither description nor suggestion of the viewpoint of focusing attention on ash content in relation to the task to improve the liquid retaining performance of absorbers, easiness to conceive can never be acknowledged and, even if the ash content of LBKP in A1 or recycled newspaper happened to be included in the numerical range of Patent Invention 1, the situation is the same.

It can never be allowed to deem ex post facto that the range of the amount of the ash content and operational effect are the same just because materials are similar to each other, and deny inventive step of Patent Invention 1 before the correction.

In addition, in the first place, A2 does not disclose any absorber, and there is no motivation to combine Invention A1 with Invention A2 in relation to a technical task to improve liquid absorbing property and liquid retaining property, and, even if they are combined, the configuration of Patent Invention 1 cannot be obtained (Demandee's statement brief (1), page 12, line 1 to page 14, line 5).

(5) Among newspapers, there are pages on which much printing ink was used and pages on which little printing ink was used, and, generally, if color printing increases, the percent of the ash content increases, and, therefore, the ash content of recycled newspaper is higher than that of paper for newspaper and, since the increased percent of the ash content by printing ink varies case by case, it cannot be deemed that the increase in the ash content by printing ink can be neglected in inferring the percent of the ash content in individual recycled newspaper.

In addition, there are many papers for newspaper of which percent of the ash content exceeds 20% by weight, and the percent of the ash content of recycled newspaper varies for an individual newspaper, therefore, it cannot be definitively asserted that the

percent of the ash content of concrete recycled newspaper never exceeds 20% by weight (Demandee's statement brief (2), page 7, line 8 to page 8, line 12).

(6) Demandant asserts that the relationship between the amount of the ash content and the performance of absorber is disclosed in A21 and A22 ([Demandant] (3) above)), but A21 relates to improvement in absorption property of paper when powder of "loading material" and "pigment" are packed into "paper", and A22 relates to the use of "powders of TiO2, Al2O3, Ge2O3, Fe2O3 and other organic or inorganic powders in addition to SiO2" instead of urethane foam or fibrous materials as adsorbent for liquefied gas, and neither of them shows any knowledge on the relationship between the percent of "ash content" and liquid absorption property of absorbers for spray cans (Demandee's statement brief (2), page 8, line 2 from the bottom to page 9, line 15).

(7) Correction A of the correction of the case is for limiting the numerical range to a range that is understood as an index for sufficient liquid retaining performance in paragraphs [0086] and [0091] in the patent specification, and in which the total retention time around 200 seconds can be obtained, and it further makes the technical significance of the numerical limitation of the upper and lower limit values in Patent Invention 1 clear.

Since it is sufficiently indicated in the patent specification that, having sample A as a peak, if the percent of the ash content increases, the total retention time becomes shorter, and if the percent of the ash content decreases, the total retention time becomes shorter, and, if the ash content is below 1% by weight or exceeds 12% by weight which correspond to the total retention time of around 200 seconds, optimum advantage of the patent invention cannot be obtained, technical significance to maintain the total retention time in a significant range is sufficiently acknowledged in the lower limit of 1% by weight of Patent Invention 1 in the same meaning as in the case of upper limit value (Written correction request, page 19, line 2 from the bottom to page 20, last line, and Demandee's written opinion, page 5, last line and page 6, line 14).

(8) A1 discloses an absorber in which LBKP is used, but, since it is totally unknown whether concrete percent of the ash content in LBKP in A1 exceeds or falls below 1% by weight, in order to start from Invention A1 and arrive at the configuration of Different Feature 1 that the percent of the ash content in the absorber is adjusted to 1% by weight or more but below 12% by weight, twofold inventions are required: [1] after finding out technical knowledge, "the performance of the absorber depends greatly on the ash content" that is neither described nor suggested in A1 to A9, [2] based on the technical

knowledge to limit to concrete numerical range in which the liquid retaining performance of the absorber becomes optimum.

In the first place, since the technical knowledge to increase liquid retentivity by adjusting the amount of the ash content itself is new, it is understood that inventive step should be acknowledged on points other than numerical limitation, and, in such case, no significance of critical range or reasonableness is required to the numerical limitation (Decision of June 28, 2006 by the Intellectual Property High Court, Hanrei Times No. 1223, page 257 "case of a low-noise fin for a louver"; decision of September 29, 2009 by the Intellectual Property High Court, Court's website, "case of a lead-free solder alloy.")

In judging on easiness to conceive such invention defined by a numerical limitation, it has been judged in court cases that even if the art contained in the numerical limitation exists as a well-known art, the patent invention does not lack inventive step just by that, and, furthermore, it is understood that it is required that motivation for focusing attention on the numerical limitation and the means to achieve the numerical limitation are disclosed in publicly known arts (Decision of October 12, 2010 by the Intellectual Property High Court, Court's website, "case of a percutaneous drug arranging device"; decision of April 12, 2005 by the Intellectual High Court, Court's website, "case of a circuit connecting film"; decision of September 26, 2005 by the Intellectual Property High Court, Court's website, "case of a stretch film for food packaging", etc.)

However, since A1 to A24 neither describe nor suggest the viewpoint to focus attention on the ash content in relation to the task to improve the liquid retaining performance of the absorber, it can never be acknowledged that the concrete numerical limitation, which is the Different Feature between Invention A1 and Patent Invention 1, can be easily conceived (Written correction request, page 20, line 13 from the bottom to page 22, line 6, and Demandee's written opinion (2), page 6, lines 15 to 28).

(9) The base compound, HFC134A of the non-combustible liquid 3 of Invention A2 is non-combustible, and almost no measures against liquid leak had been taken. In fact, since the open-cell packing 4 in A2 is fixed as pressed into the can on the valve 2 side and no sufficiently large open space is formed on the valve 2 side, in the inverted state, liquid that has a large specific weight moves downward (to the valve 2 side) and the liquid leaks easily. Namely, if the open-cell packing 4 is provided, liquid leak does not occur immediately even when placed in the inverted state, but spraying cannot be continued in the inverted state.

On the other hand, in the absorber of Invention A1, evaporated gas exists in the open space between the absorber and the valve, and the surface of the absorber has the

function of the open-cell packing 4 of Invention A2 and, since the open space between the absorber and the valve is large, spraying can be continued for a long time.

Accordingly, it cannot happen from the viewpoint of prevention of liquid leak that the open-cell packing 4 of Invention A2 is fixed to the shoulder part of the can body 1 of A1 in addition to the absorber of the first or second invention of A1, and there is a risk of degrading spraying performance because the open space is limited.

In the first place, the cover-like member in the patent invention needs to closely contact or be formed integrally with the absorber, but the open-cell packing 4 of Invention A2 is fixed to the shoulder part of the can body 1, and even if combined with the absorber of Invention A1, it does not have any function as the cover-like member of the Invention.

Therefore, there is no motivation to combine the open-cell packing of Invention A2 with the first or second invention of A1, and, even if it is combined, the configuration of the cover-like member in Patent Invention 1 cannot be obtained (Written correction request, page 22, line 8 to page 24, line 4, and Demandee's written opinion, page 6, line 29 to the last line).

No. 6 Judgment by the Body on the Reasons for Invalidation

1. Regarding the reason for invalidation 2

In view of the nature of the case, the reason for invalidation 2 is examined first.

The reason for invalidation 2 is that descriptions in Claims 1, 2, 6, and 8 do not comply with the requirement by Article 36(6)(i) of the Patent Act; namely, the support requirement.

First, since Claim 2 has been cancelled by the correction, there is no claim that is the object of invalidation.

Then, examining Claims 1, 6, and 8, since it is understood that, whether the description in the scope of claims complies with the support requirement for the description should be judged, comparing the description in the scope of claims and the description in the detailed description of the invention, by examining if the invention claimed in the scope of claims is the invention disclosed in the detailed description of the invention, and whether the invention claimed in the scope of claims is within the scope in which a person skilled in the art can recognize that the problem to be solved by the invention can be solved with the description in the detailed description of the invention, and, in addition, whether it is within the scope in which a person skilled in the art can recognize that, even without such description or suggestion, the problem to be solved by the invention can be solved based on the common general technical knowledge as of the filing of the patent application, it is examined below.

(1) Description in the patent specification

The patent specification has the following description. Underlines were added by the body for facilitating understanding.

A. "[0001]

The Invention relates to an absorber to be packed into the inside of a spray can and absorbs and retains liquefied gas. In addition, the invention relates to a spray can product spray can which is filled with liquefied gas and an absorber for retaining liquid, and more specifically, relates to a spray can product that can be preferably used for a dust blower filled with a blowing agent for removing dust, or a cylinder for a torch burner filled with combustible gas, etc."

B. "[0008]

Spray can products in which liquefied gas is used have a risk of leakage of the liquefied gas as a liquid from the spraying nozzle because of their structure. In particular, if combustible liquefied gas is used, there have been problems such as a risk of fire caused by liquid leak and restriction on posture for using and continuous use.

[0009]

As a countermeasure against this, Patent Document 1 discloses that the spray can is filled with recycled waste-paper, etc. for using it as an absorber to retain liquefied gas, and that dimethyl ether (DME) is mixed with carbon dioxide gas as another ingredient to impart flame retardance. Dimethyl ether (DME) is combustible but has a very small ozone depletion potential and global warming potential, and safety can be significantly increased by mixing with carbon dioxide gas.

[0010]

In addition, Patent Document 2 makes a proposal for an absorber for a spray can consisting of a cellulose fiber aggregate of comminuted wooden pulp, etc., and comprising fine cellulose fibers of the length of 0.35 mm or less fiber length for a predetermined amount. This absorber contains fine fibers comminuted by mechanical or chemical means, and exhibits excellent absorption performance and liquid retaining property.

[0011]

As described in Patent Documents 3 to 5, porous foamed synthetic resins are known as another type of absorber. For example, Patent Documents 2 and 3 use foamed urethane resin and filling process is simplified by injecting the material into the can and letting the urethane resin get foamed in the can. On the other hand, Patent Document 4

uses foamed phenol resin, and, after forming foamed phenol resin to the shape of a can, it is packed into the can by pressing.
[Citation list]
... (Omitted)...
[Summary of Invention]
[Problem to be solved by the invention]
[0013]

However, recycled waste-paper described as an absorber in the patent document 1 has an advantage that it can be easily obtained at a low cost and has less impact on the environment, but it has variety in quality depending on recycled waste-paper material such as recycles newspapers, advertising literature, and magazines. Because of this, there was a problem that the liquefied gas retentivity is not constant, and the amount of an absorber necessary for individual can does not stay constant. In addition, if fibers damaged through repeated recycling are included, the liquid retaining force deteriorates. Furthermore, in many cases, impurities such as printing ink, etc. are adhered to recycled waste-paper, and surfaces of fibers are in liquid-repelling condition and liquid absorbing property get deteriorated. Therefore, it has been impossible to completely prevent liquid leak when a spray can is used or stored in an inverted or inclined state, using only recycled waste-paper material.
[0014]

Since the absorber of Patent Document 2 contains a large amount of finely powdered cellulose fibers, it tends to contain air in the steps of defibration and comminuting and is not easy to treat. In addition, if recycled waste-paper is used as material, there is a risk that stable performance cannot be obtained because liquid absorbing property and liquid retentivity are not constant due to deviation in quality as mentioned above, etc. Because of this, in practice, a method in which fibers mainly comprising wooden pulp made finer by a wet method are accumulated on a sheet and rolled to match the shape of the can, or a method in which fine fibers are formed after a binder is added and fibers are bound is adopted, resulting in a complicated production process and high cost. In addition, there has been a problem that, if binder covers fibers, liquid absorbing property gets degraded.
[0015]

The absorbers of Patent Documents 3 to 5 consisting of porous foamed synthetic resin require time for foaming, and raw resin are expensive, resulting in high cost. On the other hand, although foamed porous synthetic resin has an excellent liquid retaining

performance, there has been a problem that residual gas tends to remain in the spray can and cannot be completely consumed.

[0016]

Under such situation, the purpose of the Invention is to obtain absorbers that do not require use of expensive material and a complicated production process, and to obtain absorbers that have excellent liquefied gas absorbing property and retentivity and prevent liquid leak during use or storage in an inclined or inverted state, and, with such absorbers, to realize spray can products that ensure safety and liquid retaining property at low cost.

[0017]

Through diligent studies on the relationship between various materials for the absorbers and absorbing property and liquefied gas retentivity, the inventors have found that the performance of an absorber is largely affected by the ash content contained in recycled waste-paper material. The invention was made based on this finding, and has the following constitution. Namely, the invention of Claim 1 of the application of the case is:

A spray can product in which a spray can having a spraying nozzle is filled with combustible liquefied gas and an absorber for retaining liquid, wherein,

the absorber is configured with a cellulose fiber aggregate comprising ash content in a range of 1% by weight or more but below 12% by weight,

the absorber formed to correspond to the shape of the spray can is contained in the spray can to provide an open space on the spraying nozzle side and a breathable cover-like member is arranged between the open space and the absorber to breathably protect the surface of the absorber, and

the cover-like member is a disc-shaped porous body press-fitted into the spray can and closely contacting the surface of the absorber, or a porous protective layer integrally formed on the surface of the absorber.

... (Omitted) ...

[Advantage of the Invention]

[0027]

It is believed that, with respect to regenerated cellulose fibers obtained by comminuting or defibering recycled waste-paper materials such as recycled newspaper, advertising leaflets, and recycled magazines, it is difficult for liquefied gas to penetrate into the inside of the absorber, and liquid retentivity is low compared to cellulose fibers obtained from general unused wooden pulp because of influences by damage to cellulose tissues in the regenerating process and various substances added in the paper-forming process. In addition, depending on the type and composition of the used recycled waste-

paper material, such properties change, and, therefore, it was difficult to obtain regenerated cellulose fiber aggregate with stable quality.

[0028]

According to inventions of Claims 1 and 2 of the application of the case, even in a case in which such recycled waste-paper materials are used, by adjusting the amount of the ash content in the cellulose fiber aggregate comprising regenerated cellulose fibers, absorbing property and liquefied gas retentivity are preferably maintained. Ash content derives from inorganic substances such as calcium carbonate and talc added to recycled waste paper material in paper-forming process and it is not contained in unused wooden pulp. The reason why liquid retaining property is improved by containing ash content for a predetermined range is not necessarily clear, but, if the percent of the ash content is greater than the predetermined range, a cellulose fiber aggregate tends to become hard and fragile, cracks occur in the absorber, and penetration of liquefied gas tends to get interrupted. In addition, since it is surmised that inorganic substances contained as ash content absorb liquefied gas and contribute to penetration into the inside of the absorber and supplement liquid retentivity by regenerated cellulose fibers, maintaining the percent of the ash content in an appropriate range seems to be important.

[0029]

Accordingly, in the case in which recycled waste-paper material that is easy to obtain at a low price is reused also, stable quality can be realized, liquid retaining property of cellulose fiber aggregate can be improved, and an absorber that has high quality and whose impact to environment is small can be obtained at low cost.

[0030]

According to the invention of the application of the case, a spray can product for which an absorber is used exhibits excellent absorbing property and liquefied gas retentivity, and can prevent liquid leak in an inclined or inverted state. In addition, since a surface of the absorber facing the open space is sealed by the breathable cover-like member, the advantage of preventing leak of liquefied gas in an inclined state or an inverted state can be enhanced. Accordingly, liquid leakage of spray can products during use or storage can be reliably prevented and safety and liquid retaining property can be significantly improved. Therefore, cost reduction without using expensive material or making production process complicated is possible, and a spray can product that has excellent workability, productivity, and economic efficiency can be obtained.

... (Omitted) ...

[0045]

The absorber 2 is adjusted so that the ash content is contained within the range from 1% by weight or more but below 12% by weight. Preferably, if a configuration mainly consisting of inexpensive recycled paper material made fine by defibrating, or comminuting regenerated cellulose is used, cost reducing effect is large. Starting from newspapers, advertising literature, magazines, etc., various recycled waste-paper materials such as corrugated fiberboards, catalogs, and copying paper can be preferably used as recycled waste-paper material. The percent of the ash content of those recycled waste-paper materials is determined by various inorganic substances (calcium carbonate, talc, etc.) added in paper-forming process, and normally, it is almost constant depending on the type. For example, newspaper and magazines have comparatively small percent of the ash content, and there is a tendency that, if color printing increases, the percent of the ash content increases. The desired percent of the ash content can be obtained by appropriately combining recycled waste-paper materials.

[0046]

In the past, it was understood that although pulp from recycled waste-paper has advantages of low cost and small environmental load, fibers are damaged and poor in liquid retaining property, but the Invention improves this by adjusting the percent of the ash content. Ash content contained in the absorber 2 is capable of absorbing and retaining the blowing agent, liquefied gas 3, and assists penetration of liquefied gas into the inside of the cellulose fiber aggregate, resulting in improvement in liquid absorbing property and liquid retentivity. If the percent of the ash content is below 1% by weight, this advantage cannot be obtained and, if the content increases, the advantage becomes larger, but, if the content exceeds 25% by weight, there is a tendency that the cellulose fiber aggregate becomes hard and fragile, leading to occurrence of longitudinal or transverse cracks and penetration of liquefied gas tends to get interrupted. By maintaining the percent of the ash content in the above-specified range, the quality of the absorber 2 in which recycled waste-paper material is used can be stabilized and desired performance can be realized, resulting in suppression of liquid leak.

[0047]

Preferably, the absorber 2 may be configured with cellulose fiber aggregate that contains cellulose fibers having a fiber length of 1.5 mm or less in an amount of 90% by mass or more. By making the fiber length of cellulose fibers 1.5 mm or less and forming into a fiber aggregate by pressuring and compression in advance, fine fibers that tend to contain air can be densely filled in the spray can. In addition, thanks to increase in the surface area by making fibers fine, it becomes possible to absorb and retain required amount of liquefied gas, and liquid retentivity is increased and safety can be improved.

Preferably, if the cellulose fiber aggregate contains cellulose fibers having a fiber length of 1.0 mm or less in an amount of 80% by mass or more, especially if the cellulose fiber aggregate contains fine cellulose fibers having a fiber length of 0.35 mm or less in an amount of 45% by mass is contained, it is more effective and the effect of preventing liquid leak during use or storage of the spray can 1 in an inclined or inverted state can be enhanced.

"Fiber length" in the Invention means average fiber length measured with fiber length measuring device FD-200 (made by KAJAANI).

[0048]

It is preferable to use recycled waste-paper material 100% as raw material for the absorber 2 for minimizing cost and environmental load, but, not limited to recycled waste-paper material, if the ash content is adjusted to the range from 1 to 25% by weight, desired advantages with respect to liquid retaining property can be obtained. In the case where recycled waste-paper material is used, not only recycled waste-paper material 100%, but also materials to which material other than waste-paper material is mixed for acceptable rate may be used. Softwood or hardwood, bleached or unbleached chemical pulps, dissolving pulps, or arbitrary cellulose fibers such as cotton can be pointed out as cellulose fibers that may be used. It is also possible to use several types of cellulose fiber materials by combining appropriately. In this case also, materials are appropriately combined to adjust the percent of the ash content of cellulose fiber aggregate that is the absorber 2 to the above-specified range."

C. "[0081]

(Example 1)

Next, for confirming the advantages of the invention, absorbers were manufactured based on the production process shown in above Figs. 2 and 3, and spray can products were manufactured. As materials, as shown in Table 1, various materials with different percentages of the ash content (samples A to F) were prepared using commercially available LBKP (leaf bleached kraft pulp), recycled newspapers, recycled advertising leaflets, mixture of recycled newspaper and recycled advertising leaflets, and commercially available reclaimed paper. The mixtures of recycled newspaper and recycled advertising leaflets were adjusted in two grades by changing the ratio of mixing, sample C in which the ratio of recycled advertising leaflets is small and the ash content is small, and sample D in which the ratio of recycled advertising leaflets is large and the percent of the ash content is large. In addition, in order to check the effect of the cover-like member, with respect to LBKP and reclaimed paper, spray can products in which an absorber is directly packed and a cover-like member is put on it, and spray can products

in which an absorber is packed in a bag of non-woven fabric with and without a cover-like member put on the absorber were prepared (samples G to J).

[0082]

Comminuted fibers made fine by coarse comminuting and fine comminuting in the comminuting processes (1) and (2) were classified and collected in the dust collection process (3), and finely powdered cellulose fibers containing fine cellulose fibers of 0.35 mm or less were accumulated. In processes (4) and (5), 75 g of finely powdered cellulose fiber aggregate obtained by transferring finely powdered cellulose fibers taken out from the dust collector with a volume reduction conveyor to a sorting scale and weighing was volume reduction compression molded in the process of (6) and a compression molded cylindrical block was obtained.

[0083]

The absorber consisting of a compression molded cylindrical block was extruded into a spray can in the process of (7). For samples G to J, the absorber was packed in a bag of non-woven fabric before extruding into a spray can. In this occasion, as shown in Table 1, product samples (10 samples) were prepared for each recycled waste-paper material. The outer diameter of the spray cans was 66 mm and the height was 20 cm, and, in a state in which the bottom part was seamed with the body part, after the absorber was packed into the spray can from the upper opening of the body part, further in samples A to G, and I, a cover-like member prepared in the shape of a disc whose diameter is slightly larger than the inner diameter of the body part of the spray cans was press-fitted in advance until it touched the upper surface of the absorber. A non-woven fabric sheet with the predetermined diameter was used for the cover-like member (diameter 60 mm, thickness 10 mm). After that, the top part was seamed with the top opening of the body part.

[0084]

With respect to samples A to J, the fiber-length distribution of the cellulose fiber aggregate prepared as the absorber with the above-described processes was analyzed using a fiber length/shape measuring device, and the results revealed that the content of cellulose fibers having a fiber length of 1.5 mm or less was 90% by mass or more, the content of cellulose fibers having a fiber length of 1.0 mm or less was 80% by mass or more, and the content of fine cellulose fibers having a fiber length of 0.35 mm or less was 45% or more for all samples.

[0085]

Dust blowers that are spray can products of the Invention made by injecting combustible liquefied gas, dimethyl ether (DME), as the blowing agent into spray cans

containing the absorber of samples A to J were manufactured. Liquid leak evaluation test was conducted for dust blowers in which absorbers of samples A to J were used. The test method is shown below.

[0086]

(Liquid leak evaluation test)

The dust blowers were filled with a blowing agent and, after leaving them to stand for a sufficient time, gas was jetted while holding the container in an inverted state and the time until liquid leak from the jetting section occurs was measured. The results are shown in Table 1. Table 1 shows the number of samples out of 10 samples that could maintain spraying for 30 seconds or more in the inverted state, and the sum of retention time of 10 samples. In doing so, the total time was calculated assuming that the retention time of all blowers whose retention time was 30 seconds or more as 30 seconds. For example in a dust blower, since it is considered that combustible gas used as a blowing agent catches fire caused by liquefied gas not being completely gasified at the time of jetting, and that it is seldom that spraying at a time under ordinary use continues for 20 seconds or more, in particular in case that spraying continues for 30 seconds or more, it becomes difficult to hold the can with a bare hand because of temperature drop by heat of evaporation, if spraying can be maintained for 30 seconds or more in an inverted state without liquid leak, it can be deemed a sufficient performance for normal dust removing purpose.

[0087]

(Measuring method for ash content)

Opening spray cans after the liquid leak evaluation test, the absorbers were taken out, and ash contents were measured. For each sample, 10 g was put into a melting pot and weighed, dried for 3 hours at 105 ± 2°C, and, after leaving to stand for 45 minutes, absolute dryness was measured. After drying and weighing, samples were burnt with an electric heater and ashed in an electric furnace (525 ± 25°C) for 2 hours. After cooling down in a desiccator to room temperature, the amount of the ash content was calculated the above-mentioned absolute dryness.

[0088]

[Table 1]

サンプル	A	B	C	D	E	F	G	H	I	J
原料	新聞古紙100%	新聞/広告混合少	新聞/広告混合多	広告古紙100%	再生紙	LBKP	再生紙	再生紙	LBKP	LBKP
蓋状部材	有	有	有	有	有	有	有	無	有	無
不織布袋	無	無	無	無	無	無	有	有	有	有
灰分含有量(重量%)	6.6	11.2	16.9	27.0	12.3	1.0	12.3	12.3	1.0	1.0
※1 サンプル数	9	6	4	3	4	7	10	10	10	10
※2 Total 秒	280	213	162	124	171	227	300	300	300	300

※1
10個のサンプルのうち判定が○(30秒以上液漏れしない)となったサンプルの数
※2
10個のサンプルの合計保持時間(○判定は30秒以上とする)

サンプル　Sample
原料　Material
蓋状部材　Cover-like member
不織布袋　Bag of non-woven fabric
灰分含有量(重量%)　Percent of the ash content (% by weight)
サンプル数　Number of samples
Ｔｏｔａｌ 秒　Total seconds
新聞古紙１００%　Recycled newspaper 100%
新聞/広告混合少　Mixture of newspaper/advertising leaflet Small
新聞/広告混合多　Mixture of newspaper/advertising leaflet Large
広告古紙１００%　Recycled advertising leaflets 100%
再生紙　Reclaimed paper
有　Yes
無　No
１０個のサンプルのうち判定が○(３０秒以上液漏れしない)となったサンプルの数　Number of samples out of 10 judge ○ (no liquid leak for 30 seconds or more)
１０個のサンプルの合計保持時間(○判定は３０秒以上とする)　The total retention time for 10 samples (○ judgment for 30 seconds or more)

[0089]

As is clear from Table 1, there is certain correlation between the percent of the ash content and the result of the liquid leak evaluation test, and, with respect to a dust blower directly filled with an absorber for which a recycled waste-paper material is used,

the smaller the percent of the ash content, the longer the retention time. For example, compared to the retention time of 280 seconds of sample A (recycled newspaper 100% by weight) for which the ash content is 6.6% by weight, the retention time of sample D (recycled advertising literature 100% by weight) for which the ash content is 27% is 124 seconds, which is less than half. In samples B and C in which recycled newspaper was mixed with recycled advertising leaflets, the higher the rate of recycled advertising leaflets, the shorter the retention time, as is the case with sample D, in which reclaimed paper has both the percent of the ash content and the retention time between samples B and C.

[0090]

However, in sample F in which LBKP is used, notwithstanding that the percent of the ash content is lower than that of sample A, the retention time is 227 seconds which is shorter than that of sample A. In addition, as seen in samples G to J, if the absorber is packed in a bag, all of 10 samples exhibited retention times of 30 seconds or more regardless of the percent of the ash content and existence/non-existence of a cover-like member. From these results, it is understood that, in dust blowers in which an absorber is directly packed, an effective measure for preventing liquid leak is to make the percent of the ash content stay within the predetermined range, and, by combining with a cover-like member, results almost same as in the case in which the absorber is packed in a bag of non-woven fabric are obtained.

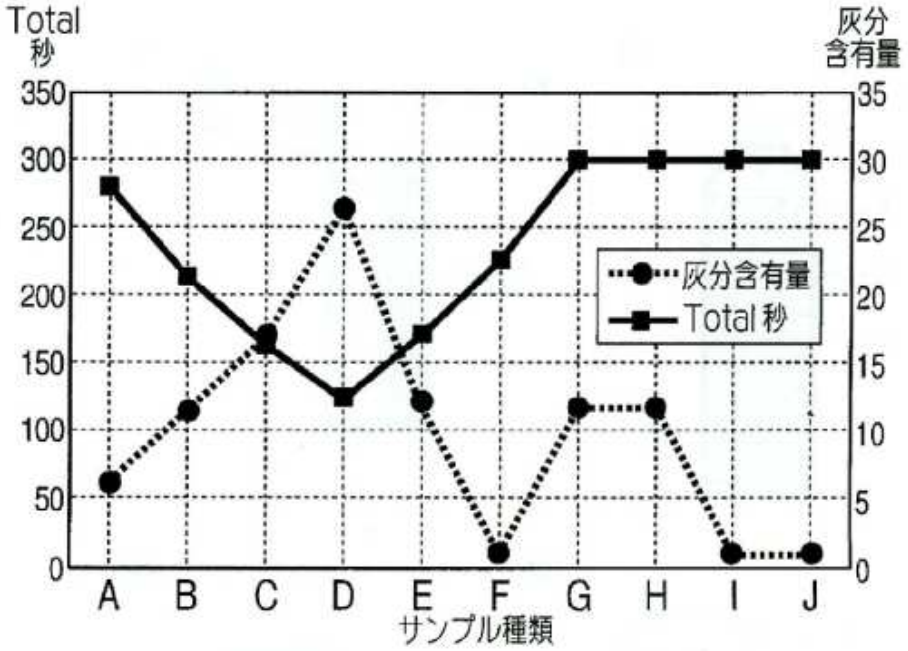
[0091]

With respect to the dust blowers of samples A to J, Fig. 6 indicates the relationship between the total retention time in Table 1 and the percent ash content. Judging from the result indicated in Fig. 6, it becomes possible to realize a retention time of around 150 seconds or more by adjusting the ash content to a lower value than that in sample D, for example, by making it below 20% by weight. In addition, there is a tendency that, if the percent of the ash content becomes smaller, the retention time becomes longer, and, for example, it is possible, by making the percent of the ash content below 12% by weight, to make the retention time around 200 seconds or more. Furthermore, it is difficult, especially, in case of recycled waste-paper material, to make the percent of the ash content 5% by weight or less, for example, to make the percent of the ash content smaller than 1% by weight in sample F, and the retention time has a tendency to decrease, having the percent of the ash content 6.6% by weight in sample A as a peak. Judging from the above, it is recommendable to maintain the percent of the ash content within the range of 1 to 25% by weight, preferably 1% by weight to 20% by

weight, and appropriately set the ash content depending on the type of used recycled waste-paper material, and required properties."

D. Graphical illustration by Fig. 6

With respect to samples A to J, Fig. 6 indicates the percent of the ash content with dotted lines and the total seconds (the total retention time of 10 samples) with solid lines.



A	B	C	D	E	F	G	H	I	J
新聞古紙100%	新聞/広告 混合少	新聞/広告 混合多	広告古紙100%	再生紙 蓋付 ダイレクト	LBKP 蓋付 ダイレクト	再生紙 蓋付 袋付	再生紙 蓋無 袋付	LBKP 蓋付 袋付	LBKP 蓋無 袋付

Ｔｏｔａｌ秒　Total seconds
灰分含有量　Percent of ash content
サンプル種類　Type of sample
新聞古紙１００％　Recycled newspaper 100%
新聞/広告　Newspaper/advertising leaflet
混合少　Mixed amount small
混合多　Mixed amount large
広告古紙１００％　Recycled advertising leaflets 100%
再生紙　Reclaimed paper

蓋付　with cover
ダイレクト　direct
袋付　with bag
蓋無　without cover

(2) Problem to be solved by the patent invention

The problem to be solved by the patent invention is as described in paragraph [0016], and, judging from the description in the underlined section in paragraph [0015], it is reasonable to understand that "use of expensive material" means use of porous foamed synthetic resin. On the other hand, judging from the description in the underlined section in paragraph [0014], there is no other choice but to understand that "complicated production process" means a production process in which fibers made fine by a wet method that mainly comprise wooden pulp are accumulated on a sheet and rolled corresponding to the shape of a can are packed, and a production process in which fibers are bonded together by adding a binder and formed.

Judging from the above, the problem to be solved by the patent invention is to obtain an absorber that has excellent absorption property and liquefied gas retentivity and with which it is possible to prevent liquid leak in using or storing in an inclined or inverted state without requiring use of a porous foamed synthetic resin, a production process in which fibers made fine by a wet method that mainly comprise wooden pulp are accumulated on a sheet and rolled to correspond to the shape of a can and packed, or a production method in which fibers are bonded together by adding a binder and formed, and, by obtaining such absorber, to realize a spray can that ensures safety and liquid retaining property at a low cost.

(3) Evaluation of solution of the problem of liquid leak by the patent invention

A. The detailed description of the invention does not concretely define the valuation of "has excellent absorption property and liquefied gas retentivity and with which it is possible to prevent liquid leak in using or storing in an inclined or inverted state" in the problem to be solved by the patent invention; namely, an evaluation approach which concretely specifies what conditions need to be satisfied in order for the patent invention to be deemed to have excellent liquefied gas absorption property and retentivity, and can prevent liquid leak.

Therefore, in judging whether a person skilled in the art can recognize that the problem to be solved by the patent invention shown in above (2) can be solved based on the description in the detailed description of the invention or common general technical

knowledge, there is no other way but to examine in what concrete case a person skilled in the art recognizes that the absorber "has excellent absorption property and liquefied gas retentivity and with which it is possible to prevent liquid leak in using or storing in an inclined or inverted state."

B. First, although it is disclosed in paragraphs [0028], [0046], [0048], etc. that absorption property and liquefied gas retentivity can be improved by adjusting the amount of the ash content, it is not concretely disclosed what condition is satisfied for absorption property and retentivity to be deemed good.

C. Next, the results of the "liquid leak evaluation test" of samples A to J whose ash content is 1.0 to 27.0% by weight are shown in paragraphs [0086] to [0091] and Fig. 1.

In particular, according to the description in the underlined part in paragraph [0086] and description in paragraph [0088], "*1 Number of samples out of 10 judged ○ (no liquid leak for 30 seconds or more)" and "*2 The total retention time for 10 samples (○ judgment for 30 seconds or more)", based on the recognition, "it can be deemed to be a sufficient performance ...if spraying can be maintained in an inverted state for 30 seconds or more without liquid leak", it can be understood that there are two different evaluations, an evaluation by the number of samples that pass the test of whether there is liquid leak in 30 seconds (hereinafter, referred to as "evaluation by the number of passed samples") and evaluation by the total time obtained by aggregating retention time of 10 samples (hereinafter, referred to as the "evaluation by the total retention time").

D. Incidentally, since the spray can product according to the patent invention uses combustible liquefied gas, as also described in paragraph [0008], if combustible liquid leaks, the liquid evaporates, generating a large amount of combustible gas, and this is a very dangerous phenomenon that might lead to explosive burning even with a small ignition. Therefore, it can be deemed that a person skilled in the art must try to reliably prevent liquid leak for an individual spray can product in order to obviate such danger and sufficiently ensure safety, and it can be deemed that, with respect to the problem to be solved by the patent invention, "liquid leak can be prevented during use or storage in an inclined or inverted state", a person skilled in the art can understand that it means reliably preventing liquid leak during production, and during use or storage of the individual spray can product in an inclined or inverted state.

Examining now the above-mentioned two types of evaluations based on such premise, first, since "evaluation by the total retention time" is the total retention time of 10 samples obtained by spraying 10 samples in an inverted state and, for samples that retained liquid for 30 seconds or more without liquid leak, recording the retention time as 30 seconds and for samples that had liquid leak in less than 30 seconds, recording

retention time until liquid leak occurred, in the case in which individual retention times of 10 samples do not vary but all 10 samples have the same retention time, if the time until liquid leak occurs is long, it can be deemed that each sample has excellent absorption property and for liquefied gas retentivity. However, only from "evaluation by the total retention time", it is not known whether retention times of 10 samples varied or had the same value, and the number of samples that passed the test cannot be known. Therefore, it is not clear whether or not each sample could sufficiently prevent liquid leak, and it cannot be deemed that "liquid leak can be prevented during use or storage in an inclined or inverted state" is evaluated directly.

E. On the other hand, in "evaluation by the number of passed samples", 10 samples are sprayed in an inverted state, and the number of samples that retained liquid for 30 seconds or more without liquid leak is recorded, and it can be deemed that a person skilled in the art can recognize that, since liquid leak tends to occur most in an inverted state, it is deemed that it can be recognized that, if liquid leak does not occur in an inverted state, no liquid leak occurs when the sample is in an inclined state or during storage. Then, it can be deemed that "evaluation by the number of passed samples" directly and concretely evaluates for each individual sample whether "liquid leak can be prevented during use or storage in an inclined or inverted state."

However, since it is normal in experiments with industrial products that certain error often occurs, it can be deemed that, even if there are failed samples for which the time until liquid leak occurs is below 30 seconds, if a result comparable to it can be obtained, it can be recognized that "liquid leak can be prevented during use or storage in an inclined or inverted state." In addition, since the retention time of samples that passed the liquid leak evaluation test is 30 seconds, by excluding this from the total retention time, rough estimate of retention time of failed samples can be calculated, and it can be evaluated whether it is a result comparable to 30 seconds.

Accordingly, it can be deemed that, if "the number of passed samples" is 10, or, even if it is below 10, if a result in which the time until liquid leak occurs is comparable to 30 seconds, a person skilled in the art can recognize that the problem to be solved by the patent invention, "liquid leak can be prevented during use or storage in an inclined or inverted state", has been solved.

F. As shown in D, with only "evaluation by the total retention time", it cannot be deemed that whether "liquid leak can be prevented during use or storage in an inclined or inverted state" is directly evaluated, and the reason can be concretely explained such that, in the case in which the total time of "evaluation by the total retention time" for 10 samples is long to some extent, and, when converted to the average retention time for an individual

sample, the result is comparable to 30 seconds, for example, the total time is 280 seconds, and the average retention time is 28 seconds, if the retention time of 10 samples is the same; namely, if the retention time of all of 10 samples is around 28 seconds, since a result comparable to 30 seconds is obtained for each sample, a person skilled in the art judges that liquid leak is sufficiently prevented, and it can be recognized that "liquid leak can be prevented during use or storage in an inclined or inverted state." However, even if the total time is 280 seconds, if the retention time for 10 samples largely varies, since a person skilled in the art does not judge that liquid leak is sufficiently prevented in each individual sample, it is not recognized that "liquid leak can be prevented during use or storage in an inclined or inverted state." Accordingly, even if the "total retention time" is close to 300 seconds, it cannot be deemed only from that result that "liquid leak can be prevented during use or storage in an inclined or inverted state."

G. As described above, in order to make it possible to recognize that, among problems to be solved by Patent Inventions 1, 6, and 8 described in the scope of claims pointed out in the above (2), "to obtain an absorber ... with which it is possible to prevent liquid leak in using or storing in an inclined or inverted state" can be solved, it is necessary that it can be recognized that a working example that complies with all matters specifying the invention according to Patent Inventions 1, 6, and 8; in particular, a result that, by making the ash content of the absorber 1% by weight, "the number of passed samples" in the liquid leak evaluation test is 10 can be obtained, or, even if it does not reach 10, a result that the time in which no liquid leak occurs for an individual sample is comparable to 30 seconds can be obtained.

(4) Relationship between Patent Invention 1 and sample F

A. Patent Invention 1

Patent Invention 1 is as specified by matters described in [claim 1] in No. 3 above.

B. Sample F

Since Demandant asserts that the patent specification does not have any description to the effect that recycled newspaper is used and the ash content is restricted to the range from 1% by weight or more but below 6.6% by weight (No. 5, 2, [Demandant] (1)), and that, in sample F, 3 samples out of 10 samples do not have "○" in the judgment on liquid leak, and sample F is not a working example of the patent invention (No. 5, 2, [Demandant] (2) and (3)), sample F for which ash content of the absorber is made 1% by weight is examined and it is found that, judging from descriptions in the underlined parts in paragraphs [0081] to [0086] and Table 1, since sample F is a spray can product as

described below, sample F can be deemed to be a working example provided with all matters specifying the invention according to Patent Invention 1.

<Spray can product according to sample F>

"A spray can product consisting of a spray can provided with a spraying nozzle filled with 350 ml of a combustible liquefied gas, dimethyl ether (DME), and an absorber for retaining liquid, wherein the absorber consisting of a cellulose fiber aggregate of which material is LBKP (hardwood bleached kraft pulp) comprising 1.0% by weight of ash content, wherein the spray can accommodate the absorber formed into a cylindrical block corresponding to the shape of the spray can so that an open space is provided on the spraying nozzle side, a breathable cover-like member that breathably protects the surface of the absorber is arranged between the open space and the absorber, and the cover-like member is a laminated non-woven fabric sheets cut into a disc-like shape and press-fitted into the spray can to closely contact the surface of the absorber."

(5) Liquid leak evaluation test of sample F

As seen in the description in Table 1 in paragraph [0088], the result of liquid leak evaluation test of sample F by "evaluation by the number of passed samples"; namely, "number of samples out of 10 judged ○ (no liquid leak for 30 seconds or more)" was 7, and by "evaluation by the total retention time"; namely, "the total retention time for 10 samples (○ judgment for 30 seconds or more)" was 227 seconds (hereinafter, "pass" means that a sample "can be judged as ○, and "fail" means a sample "cannot be judged as ○").

(6) Whether it can be judged that the problem can be solved with sample F

A. As indicated in above (3), G, while it is necessary, for recognizing that "liquid leak can be prevented during use or storage in an inclined or inverted state" among problems to be solved by the patent invention can be solved, that the "number of passed samples" is 10, or even in the case the number is below 10, it can be recognized that the result comparable to 30 second can be obtained, it is obvious that it can be recognized for passed 7 samples that "spraying can be maintained for 30 seconds or more in inverted state without liquid leak."

B. Next, examining whether it can be recognized that the result comparable to "30 seconds or more" for failed 3 samples can be obtained, since, in the liquid leak evaluation test, it was treated as "the total time was calculated assuming that the retention time of all blowers for which retention time was 30 seconds or more as 30 seconds" (paragraph

[0086]), the retention time of passed 7 samples is 30 seconds x 7 samples = 210 seconds, and, if this is deducted from the total retention time of sample F, 227 seconds, the total retention time for failed 3 samples is 227 seconds - 210 seconds = 17 seconds.

C. The individual retention time of failed 3 samples has not been made clear, but, since the total retention time of the 3 samples is only 17 seconds, the longest possible retention time of any one of failed 3 samples is 17 seconds, and, in such case, the retention time for the remaining 2 samples is 0 seconds. If the retention times of the 3 failed samples are almost the same, the average time is only 5.7 seconds and they are far below 30 seconds.

D. Then, since even if one of the 3 failed samples in sample F has the longest possible retention time, it is only 17 seconds that is far below 30 seconds, and, in that case, the retention times for the 2 remaining sample are 0 seconds, and even if it is assumed that the retention times of 3 samples are the same, it is only 5.7 seconds, it cannot be deemed that a person skilled in the art can recognize that any result comparable with "30 seconds or more" can be obtained.

E. With respect to sample F, it is recognized for 7 passed samples that the problem to be solved by the patent invention has been solved, but, with respect to 3 failed samples, it cannot be recognized that the problem to be solved by the patent invention has been solved, and, judging from the properties of spray can products as the patent invention, it cannot be imagined that manufactured products are 100% inspected and shipped after removing about 30% of the products that have liquid leak, and taking into consideration the possibility that shipped products might include around 30% of products that have liquid leak, it has to be said that, if a person skilled in the art sees the results of 10 samples of sample F together, it is difficult to recognize that the problem to be solved by the patent invention has been solved.

F. Samples I and J

Examining samples I and J, since they are pointed out in the patent specification as samples that have an ash content 1.0% by weight the same as sample F, for samples I and J, the "number of passed samples" is 10, and the "the total retention time" is 300 seconds. Therefore it can be deemed that the problem to be solved, "liquid leak can be prevented during use or storage in an inclined or inverted state", has been solved.

However, even if the ash content is the same, 1.0% by weight, while sample F is "bag of non-woven fabric No"; namely, the absorber is directly packed into the spray can, samples I and J are "bag of non-woven fabric Yes"; namely, the absorber is packed in a bag of non-woven fabric and packed into the spray can.

Even if samples I and J that have the ash content of 1.0% by weight and a bag of a non-woven fabric have solved the problem to be solved by the invention, "liquid leak

can be prevented during use or storage in an inclined or inverted state", there is no other choice but to say that it is not known whether the above problem can be solved by making the ash content 1.0% by weight without a bag of non-woven fabric, and it cannot be deemed that a person skilled in the art can recognize from the results for samples I and J with respect to Patent Invention 1 that does not define any bag of non-woven fabric that the problem to be solved by the invention can be solved by making the ash content 1.0% by weight.

G. Accordingly, it cannot be deemed that a person skilled in the art can recognize that Patent Invention 1 including sample F can solve the problem, "to obtain absorbers ... in which liquid leak can be prevented during use or storage in an inclined or inverted state" among problems to be solved by Patent Invention 1 by the description in the detailed description of the invention, and therefore, it cannot be deemed that the detailed description of the invention describes making the amount of the ash content 1% by weight or more but below 12% by weight, in particular, making the amount of the ash content 1% by weight.

(7) Regarding Patent Inventions 6 and 8

Since Patent Inventions 6 and 8 are just as specified by matters described in [Claim 6] and [Claim 8] in No. 3, and sample F is just as found in (4), B, sample F can be deemed to be a working example provided with all matters specifying the invention of Patent Inventions 6 and 8.

However, as indicated in above (6), A to G, since there is no other choice but to say that it is difficult for a person skilled in the art who accesses the test result for sample F to recognize, at least with respect to sample F, that "could maintain spraying for 30 seconds or more without liquid leak in the inverted state", it cannot be deemed that Patent Inventions 6 and 8 can solve, "to obtain an absorber ... in which liquid leak can be prevented during use or storage in an inclined or inverted state" among the problems to be solved by the patent inventions, and, therefore, it cannot be deemed that the detailed description of the invention discloses to make the amount of the ash content 1% by weight or more but below 12% by weight.

(8) Demandee's allegation

A. Regarding assertions in No. 5, 2, [Demandee] (1) and (2)

Demandee asserts that, since it is disclosed in working examples that sufficient advantages that the number of samples that could maintain spraying for 30 seconds or more without liquid leak was 7, and spraying could be maintained for 227 seconds in the

inverted state without liquid leak, reason for invalidation 2 asserted by Demandant is groundless.

As described above, however, among problems to be solved by the patent invention, for recognizing that "to obtain an absorber ... in which liquid leak can be prevented during use or storage in an inclined or inverted state" can be solved, it is necessary that even if the "number of passed samples" in the liquid leak evaluation test is 10 samples, or the number of passed samples is below 10, it can be recognized that the result comparable to 30 seconds can be obtained. Demandee's assertion is such that, taking the "evaluation by the total retention time" as a premise, the support requirement is satisfied, and such assertion cannot be justified.

B. Regarding assertion in No. 5, 2, [Demandee] (4)

As Demandee asserts that the description, "30 seconds" in paragraphs [0086] and [0088] regarding the liquid leak evaluation test in detailed description of the invention is a mistake for "20 seconds", the assertion regarding erroneous description is examined below.

(A) Demandee points out the following points as grounds for the assertion that the criterion is not 30 seconds but 20 seconds.

<Ground 1>

There is a description, "it is seldom that the time of use at a time reaches 20 seconds or more in ordinary use" in Paragraph [0086].

<Ground 2>

There is a description, "it is possible to realize a retention time of around 150 seconds or more by adjusting the ash content to ... below 20% by weight" and "it is possible to make the retention time around 200 seconds or more by making the percent of the ash content below 12% by weight" in paragraph [0091].

<Ground 3>

In paragraphs [0088], [0091], [Fig. 6], etc., samples C and E before the correction for which average retention time of 10 samples is 15 seconds or more are treated as working examples of the patent invention, and samples A, B, and F for which average retention time is 20 seconds or more are treated as most preferred examples

<Ground 4>

There is a description "in particular in a case where spraying continues for 30 seconds or more, it becomes difficult to hold the can with a bare hand because of temperature drop by heat of evaporation, if spraying can be maintained for 30 seconds or more in an inverted state without liquid leak, it can be deemed to be a sufficient performance for normal dust removing purpose" in paragraph [0086].

(B) Examining now Grounds 1 and 4, although there is a description, "it is seldom that the time of use at a time reaches 20 seconds or more in ordinary use" in paragraph [0086], but it is followed by a description, "in particular in case that spraying continues for 30 seconds or more, it becomes difficult to hold the can with a bare hand because of temperature drop by heat of evaporation, if spraying can be maintained for 30 seconds or more in an inverted state without liquid leak, it can be deemed to be a sufficient performance for normal dust removing purpose"; namely, after especially stressing that the criterion is set to 30 seconds, it is indicated that the performance can be ensured.

Furthermore, as seen in the descriptions, "*1 Number of samples out of 10 judged ○ (no liquid leak for 30 seconds or more)" and "*2 The total retention time for 10 samples (○ judgment for 30 seconds or more)" in paragraph [0088], the description, "as seen in samples G to J, ...all of 10 samples exhibited retention times of 30 seconds or more ... . From those results, ...it is effective for preventing liquid leak to make the percent of the ash content to stay within the predetermined range" in paragraph [0090], it is consistently indicated that the criterion is set to 30 seconds, neither any unconformity nor discrepancy can be found for setting the criterion to 30 seconds in the descriptions in paragraphs [0086] and [0088].

Accordingly, since the patent specification consistently states that the criterion is 30 seconds, and a person skilled in the art who normally reads the description in the specification cannot understand that the criterion is not 30 seconds but 20 seconds, Demandee's assertion cannot be accepted.

(C) Examining the ground 2 now, since the description in paragraph [0091] relates to "evaluation by the total retention time" in the liquid leak evaluation test, and not any description relating to "evaluation by the number of passed samples", a person skilled in the art who assesses the description never understand the criterion for "evaluation by the number of passed samples" is not 30 seconds, but 20 seconds, and Demandee's assertion cannot be accepted.

(D) Next, examining the ground 3, Demandee asserts that samples A, B, and F that have the average retention time of 20 seconds or more are treated as most preferred examples, but, paragraphs [0088] and [0091], as well as [Fig. 6], do not have any description that explicitly states that samples A, B, and F are the most preferred examples, nor any description about evaluation of the test result with the "average retention time."

In the first place, in the liquid leak evaluation test in the patent specification, 10 samples are sprayed in the inverted state and, for samples that maintained spraying for 30 seconds or more without liquid leak, the retention time is recorded as 30 seconds, and, for samples in which liquid leak occurs below 30 seconds, the retention time until the

liquid leak occurs is recorded, but the retention times for individual samples have not been made clear, and only the total retention time of 10 samples and the number of samples that passed the test are disclosed, and it is not possible to find out the time for determining pass/fail reasonably and unambiguously. Then, even if there is significant variation in the times for passed samples such as samples A, B, and F, and the times for failed samples, it cannot be deemed that a person skilled in the art notices from the description in the patent specification that lacks concrete disclosure on the retention time of individual samples that the concrete numerical value for judging pass/fail in the patent specification, "30 seconds" is not correct, and, rather, it should be deemed to cause doubt about validity of not only sample F but also the result of the liquid leak evaluation test including samples A and B as a whole and technical significance of the patent invention.
(E) Additionally, with respect to the result of the liquid leak evaluation test, taking into consideration the development that, in response to Demandant's comment in the written refutation, page 11 on inaccurate description (No. 5, 2, [Demandant] (2)), Demandee admitted in page 8 of the written reply (2) as "it is sufficient if it can be retained for 30 seconds or more" and gave excuses (No. 5, 2, [Demandee] (2)), there is no other choice but to point out that even if descriptions about the time for judging pass/fail, "30 seconds" are read as they are, Demandee per se did not recognize any unnaturalness or unreasonableness.
(F) Judging from the above, Demandee's assertion in No. 5, 2, [Demandee] (4) cannot be accepted.
C. Regarding assertion in No. 5, 2, [Demandee] (5)

Based on a premise that the criterion is 20 seconds, Demandee asserts that sample F has necessary performance, but, since it cannot be understood that the criterion is 20 seconds as indicated in the above B, (B) to (D), Demandee's assertion lacks premise and cannot be accepted.
D. Regarding assertion in No. 5, 2, [Demandee] (6)

Based on the description in A1, which is a publication for Demandee's patent application, Demandee asserts that the criterion is not 30 seconds but 20 seconds.

However, since it is consistently stated in the patent specification that the criterion is 30 seconds, a person skilled in the art who normally read the descriptions in the specification has no other choice but to understand that the criterion in the patent invention is 30 seconds, and even if a person skilled in the art accesses the description in A1, the person skilled in the art simply recognizes that the patent invention has a criterion different from that in A1, and A1 ensures the performance under a severer standard, it cannot be deemed that the person skilled in the art understand that the criterion in A1, 20

seconds, becomes the criterion in the present case as it is and the "30 seconds" described in the detailed description of the invention in the present case is a mistake.

Accordingly, Demandee' assertion cannot be accepted.

E. Regarding assertion in No. 5, 2, [Demandee] (8)

Demandee asserts that, if the common general technical knowledge of a person skilled in the art as of the filing of the application for the patent of the case is taken as a premise, the spray time normally expected to a spray can product is around 5 seconds at the longest, and, since it is sufficient for ordinary use if there is no liquid leak for around 5 seconds in the inverted state, the person skilled in the art does not recognize that the problem to be solved by the patent invention cannot be solved unless individual samples in working examples can prevent liquid leak for 30 seconds or a comparable time period.

Absolutely, it can be deemed that the spray time normally expected for spray can products is 2 to 3 seconds, or around 5 seconds at the longest, but a person skilled in the art does not understand that the problem to be solved by the invention can be solved only because there is no liquid leak for around 5 second in the inverted state. Namely, there is no other way but to judge that, if no liquid leak occurs for around 5 seconds in an inverted state, a person skilled in the art simply recognizes it simply as use conditions as the common general technical knowledge; in other words, absorption property and retentivity of the technical level as of the filing of the application for the patent of the case, and does not recognize that the sample has "excellent absorption property and retentivity" that is a problem to be solved by the invention.

Accordingly, Demandee's assertion cannot be accepted.

F. Regarding assertion in No. 5, 2, [Demandee] (9)

Reciting court cases, Demandee asserts that, if there is a description that makes a person skilled in the art recognize that the problem can be solved, for example, it is not necessary that the advantages are backed up with concrete measurement results, but, those court cases are for different cases and do no bind judgement of the body, and, in the first place, since there is no description that enables recognition that the problem can be solved with respect to a matter "ash content 1% by weight of ash content" of the patent invention, Demandee's assertion cannot be accepted.

G. Regarding assertion in No. 5, 2, [Demandee] (10)

Demandee asserts that, since the spray time of spray can products is around 5 seconds at the longest, it is sufficient for ordinary use if no liquid leak occurs for around 5 second in the inverted state, and that, since samples A, B, and F have a total retention time of 200 seconds or more, a person skilled in the art can recognize that samples A, B, and F can solved the problem to be solved by the invention.

As indicated in above E, however, even if there is no liquid leak for around 5 seconds in the inverted state and it is sufficient for ordinary use, a person skilled in the art does not recognize only with this that the problem to be solved by the patent invention can be solved.

In addition, as indicated in above (3), F, since a person skilled in the art does not recognize only with "evaluation by the total retention time" that the problem to be solved by the patent invention can be solved, Demandee's assertion cannot be accepted.

H. Regarding assertion in No. 5, 2, [Demandee] (11)

Demandee asserts that 30 seconds as the pass/fail criterion merely means that the liquid leak evaluation test is carried out exceeding the degree of ordinary use with an intention to lower the possibility of occurrence of liquid leak, and it is not of such nature that unless an absorber surpasses this, it cannot be used for ordinary use as an absorber to be used for spray can products, but, the problem to be solved by the patent invention is just as shown in (2), and not whether it withstands ordinary use, Demandee's assertion cannot be accepted.

In addition, Demandee asserts that it cannot be deemed immediately that a person skilled in the art who accesses the test results for samples A, B, and F cannot recognize that the invention cannot solve the problem just because a part of sample cannot satisfy the condition of 30 seconds, but, as indicated in (5), D, since a person skilled in the art does not recognize that the problem to be solved by the patent invention cannot be solved not only because some of the samples do not satisfy 30 seconds, but also such samples can obtain only results far below 30 seconds, Demandee's assertion cannot be accepted.

(9) Closing for the reason for invalidation 2

As described above, it cannot be deemed that descriptions in Claims 1, 6, and 8 comply with Article 36(6)(i) of the Patent Act.

In addition, since Claim 2 has been cancelled by the correction, there is no claim that is the object of invalidation.

2. Regarding the reason for invalidation 8

In view of the case, the reason for invalidation 8 is examined below.

(1) Patent Inventions 1, 2, 6, and 8

Patent Inventions 1, 2, 6, and 8 are just as described in [Claim 1], [Claim 2], [Claim 6], and [Claim 8] in No. 3, and, since Claim 2 has been cancelled by the correction, there is no claim that is the object of invalidation.

(2) Technical significant of the numerical range of Patent Invention 1

A. Patent Invention 1 includes the matter, "the absorber is a cellulose fiber aggregate comprising ash content within the range of 1% by weight or more but below 12% by weight", and it cannot be deemed that the technical significance of specifying the numerical range, "ash content within the range of 1% by weight or more but below 12% by weight" cannot be unambiguously and clearly understood from the descriptions in the scope of claims.

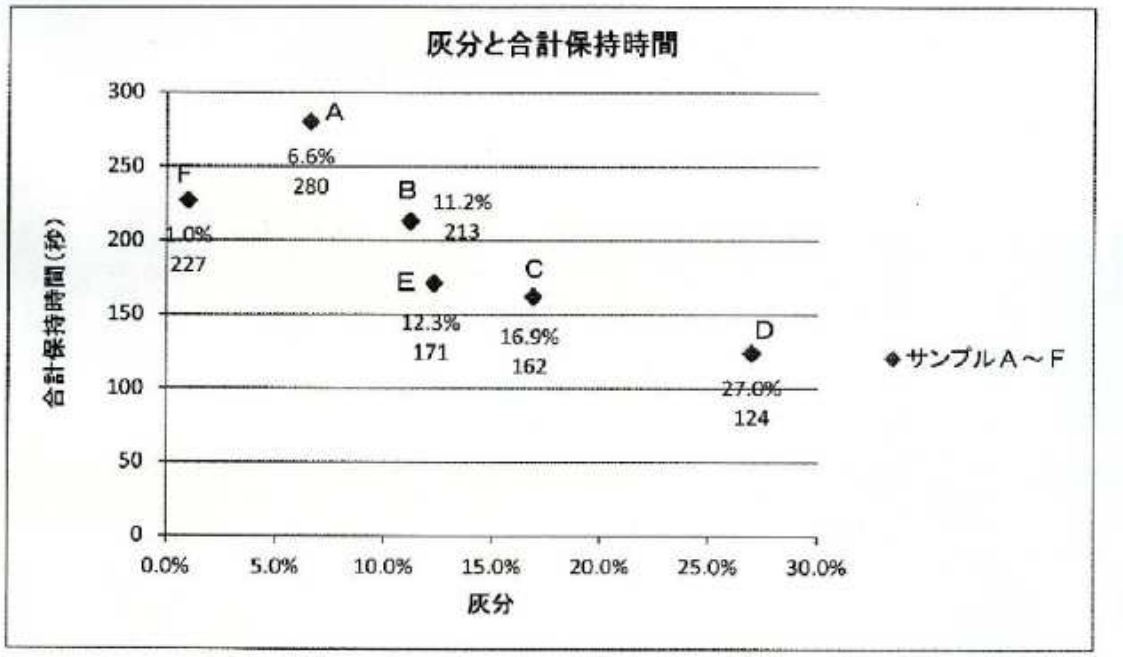
B. Referring now to the patent specification, it can be understood that the problem to be solved by the patent invention is just as shown in the above 1, (2), and, in solving the problem, inventors of the patent of the case found that the performance of absorbers is largely affected by the ash content contained in recycled waste-paper material (paragraph [0017]), and the patent invention is based on this finding.

C. It is stated with respect to the performance of the absorber and the ash content, that it is considered that, concretely, the ash content contained in the absorber has capability to absorb and retain liquefied gas, and assists penetration of liquefied gas into the inside of the cellulose fiber aggregate and improves liquid absorption property and liquid retentivity and, if the amount of the ash content does not reach 1% by weight, this effect cannot be obtained, and, if the content increases, the effect becomes larger, but, if it exceeds 25% by weight, penetration of liquefied gas tends to get interrupted (paragraph [0046]).

D. The evaluation by the total retention time and the evaluation by the number of passed samples were carried out in the liquid leak evaluation test for samples A to J, and all of samples G to J that fall under "bag of non-woven fabric Yes", regardless of the scale of the percent of the ash content, have the total retention time of 300 seconds, and the number of passed samples of 10. Therefore, after excluding them, looking at the evaluation by the total retention time for samples A to F (refer to the reference diagram), it can be understood that, having sample A (percent of the ash content is 6.6%, and the total retention time is 280 seconds) as a peak, the total retention time becomes gradually shorter in the order of the increase in the percent of the ash content as sample B (11.2%, 213 seconds), sample E (12.3%, 171 seconds), sample C (16.9%, 162 seconds), and sample D (27.0%, 124 seconds).

In addition, sample F (1.0%, 227 seconds) is shown as an example in which the ash content is lower than that of sample A, and it can be understood that, having sample A as a peak, the lower the percent of the ash content, the shorter the total retention time.

<Reference diagram>



灰分と合計保持時間　Ash content and the total retention time
合計保持時間(秒)　Total retention time (seconds)
灰分　Ash content
サンプル　Samples

E. Based on such understanding as a premise, examining technical significance of specifying the ash content to 1% or more but below 12% by weight, it can be understood with respect to the upper limit value of 12% by weight that sample E (12.3%, 171 seconds), sample C (16.9%, 162 seconds), and sample D (27.0%, 124 seconds) for which amount of ash content is higher than that are shown, and, in particular, with respect to samples B and E, notwithstanding that the difference in the ash content (% by weight) is only 1.1 points, the difference in the total retention time is 42 seconds, and it can be deemed that the technical significance of the upper limit value, 12% by weight, is to keep the total retention time within the range of around 200 seconds.

In particular, since recycled waste-paper contains much ash content, it can be deemed that a person skilled in the art can understand the technical significance of maintaining the total retention time in the range around 200 seconds by adjusting the ash content of recycled waste-paper not to exceed the upper limit of 12% in the case where the material is recycled waste-paper.

Against this, for the lower limit value, 1% by weight, no example below such value has been shown, and it cannot be understood to what extent the total retention time becomes short. Namely, the total retention time for sample F is 227 seconds, and even if the total retention time becomes shorter because the percent of the ash content is below 1% by weight, no experimental results that show with what degree of ash content the retention time becomes below 200 seconds have been presented.

In particular, as shown in the above (4), B, taking into consideration that the average ash content of commercially available chemical pulp is 0.71% (A3), and the difference from the lower limit value, 1% by weight, is only around 0.3 points, it is not known, among chemical pulps that a person skilled in the art normally purchases and uses, whether any pulp whose total retention time is below 200 seconds is available in the market, and, since it is difficult to believe that there is a critical correlation between the ash content and the total retention time at around 1% by weight, it cannot be acknowledged that the technical significance of the lower limit value, 1% by weight, is to limit the total retention time to 200 seconds.

F. On the other hand, referring now to the patent specification, judging from the fact that there is a description, "it is difficult, especially, in case of recycled waste-paper material, ... for example, to make the percent of the ash content lower than 1% by weight in sample F" (paragraph [0091]), it is natural to understand that the technical significance of setting the lower limit value of the percent of the ash content to 1% by weight is to avoid technical difficulty accompanying lowering ash content below 1% by weight by removing ash content from recycled waste-paper that contains a large percent of the ash content.

G. In addition, as stated in the above 1, (6), it is difficult to a person skilled in the art to recognize that sample F whose ash content is 1.0% by weight has solved the problem to be solved by the invention, but, if it is correct, no special technical significance can be acknowledged in the lower limit value of the percent of the ash content being 1% from the point of "liquid leak can be prevented during use or storage in an inclined or inverted state."

H. Judging from the above, while the technical significance of the numerical range, "ash content within the range of 1% by weight or more but below 12% by weight" is to limit the total retention time within the range of 200 seconds with respect to the upper limit value, 12% by weight, with respect to the lower limit value, 1% by weight, it is reasonable to acknowledge that technical significance is to avoid technical difficulty accompanying lowering ash content below 1% by weight using recycled waste-paper.

I. Demandee asserts that, for the lower limit value 1% by weight of Patent Invention 1, technical significance that the total retention time is limited within the range around 200

seconds can be sufficiently acknowledged in the same meaning as in the case of the upper limit value (No. 5, 8, [Demandee] (7)), but, as indicated in above E, in addition to the fact that no experimental result in which the ash content is below 1% by weight and the total retention time is below 200 seconds is shown, taking into consideration that the average ash content of commercially available chemical pulp is 0.71%, and the difference from the lower limit value, 1% by weight, is only around 0.3 points, it is not known whether any pulp whose total retention time is below 200 seconds is available in the market, and it is difficult to believe that there is critical correlation between the ash content and the total retention time at around 1% by weight, no technical significance that the total retention time is limited within the range of around 200 seconds can be acknowledged for the lower limit value of 1% by weight.

J. In addition, reciting court cases, Demandee asserts that, in the first place, since the technical knowledge to increase liquid retentivity by adjusting the amount of the ash content itself is new, it is understood that inventive step should be acknowledged on points other than numerical limitation, and, in such case, no significance of critical range or reasonableness is required to the numerical limitation (No. 5, 8, [Demandee] (8)) ,but since those court cases are for different cases and do no bind judgement of the body, Demandee's assertion cannot be accepted.

(3) Described matter in each evidence A and inventions disclosed in each evidence A

A. Described matters in A1 and Invention A1

(A) "[Technical field]

[0001]

The invention relates to an absorber for retaining liquefied gas packed in a spray can. In addition, the invention relates to a method for producing the absorber in a sheet-like shape.

The spray can in the Invention is, to be specific, a spray can preferably be used for spray can products such as dust blowers (dust blowers used for removing dusts and dirt adhered to various instruments by blowing off with the sprayed gas) and canisters for torch burners (gas canisters used for melting ice in frozen water pipes, brazing and soldering, and making fire with charcoal or firewood).

[Background art]

[0002]

In the past, dust blowers used for removing dusts and/or dirt adhering to various instruments consisted of disposable metal cans provided with a spray button filled with a

blowing agent such as compressed gas or liquefied gas, and the gas is sprayed by pressing the spray button.

As blowing agent for dust blowers, HFC-134A (CH2F-CF3) that is a non-combustible CFC gas had been used in the past, but, in recent years, HFC-152A (CF3-CHF2) that is a combustible CFC gas having less ozone depletion potential and global warming potential or methyl ether (DME) that has no ozone depletion potential and very small global warming potential, etc. has been used.

Incidentally, in spray can products such as dust blowers and canisters for torch burners filled with liquefied gas, because of their structure, if used in the inverted state, liquefied gas leaks as a liquid from the spraying part. Particularly, in the case of dimethyl ether (DME) or other combustible liquefied gases, it is dangerous if there is any leak.

In order to solve such a problem, as conventional arts, there are spray can products in which carbon dioxide gas is mixed with dimethyl ether in order to impart flame retardant property to the gas, or an absorber for retaining liquefied gas is packed in a spray can for dust blower (Patent Document 1).

As it stands now, comminuted recycled waste-paper, etc. wrapped with non-woven fabric and formed in cylindrical shape, and formed urethane foams are often used as absorbers for spray cans.

[0003]

[... (Omitted) ...]

[Disclosure of the invention]

[Problem to be solved by the invention]

[0004]

However, since conventionally used comminuted recycled waste-paper, etc. contains fibers already damaged by recycling processes, they are poor in liquid retentivity. In addition, since quality of materials varies, liquid retentivity is not consistent, and the amount of absorber necessary for each can has not been constant in certain cases. Furthermore, impurities such as printing ink are adhered to recycled waste-paper in many cases, and the surfaces of fibers are in a condition to repel liquid, resulting in poor liquid adsorption property. Therefore, liquid leak has occurred if the spray can is used in the inverted state. In addition, if cans are stored in the inverted state, it has caused liquid leak. In addition, various ink components contained in recycled waste-paper have had a risk of getting dissolved into or reacting with liquefied gas, and as a result there has been a risk of trouble of coloring by liquefied gas when sprayed.

Therefore, as an absorber to be used in a spray can filled with liquefied gas, an absorber that has better absorption performance and liquid retaining property had been needed.

[Means for solving the problem]

[0005]

The invention has the following constitution for solving the problem to be solved by the invention.

Namely, the first object of the invention is to provide an absorber consisting of comminuted cellulose fiber aggregate in which the cellulose fibers contain fine cellulose fibers having a fiber length of 0.35 mm or less for 45% by mass or more."

(B) "[0013]

The absorber for a spray can of the Invention is further concretely explained below.

The absorber for a spray can of the invention mainly comprises comminuted cellulose and the cellulose fibers comprising fine cellulose fibers having a fiber length of 0.35 mm or less in an amount of 45% by mass or more.

By making the fiber length of the cellulose fibers 0.35 mm or less, the cellulose fibers can be densely packed in the spray can as a fiber aggregate and the liquid retentivity can be increased. If the content of fine cellulose fibers with a having a fiber length of 0.35 mm or less is less than 45% by mass, as the absorption performance and the liquid retentivity of the absorber become poor, the effect to prevent liquid leak when the spray can is in inverted state cannot be sufficiently obtained.

'Fiber length' in the Invention means average fiber length as measured with fiber length measuring device FS-200 (made by KAJAANI)."

(C) "[0022]

Arbitrary cellulose fiber materials such as softwood or hardwood, bleached or unbleached chemical pulps, dissolving pulps, recycled waste-paper pulp, and cotton can be used by appropriately comminuting them. In particular, NBKP, and LBKP pulps are excellent in their absorption property and water-holding property, and in that no coloring of liquefied gas occurs, and can be preferably used."

(D) "[0031]

The absorbers for spray cans used for spray can products (dust blowers and canisters for torch burners) of the invention consist of a comminuted cellulose fiber aggregate that comprises 45% by mass or more of fine cellulose fibers having a fiber length of 0.35 mm or less consisting of above-mentioned fibers. A method for packing a fiber aggregate in a spray can may be arbitrarily selected. Accordingly, it is possible

to make the absorber of the invention by adjusting so that the obtained comminuted cellulose fibers comprise desired fine cellulose fibers, and packing a predetermined amount directly into the spray can in accordance with the size of the spray can.

In addition, the absorber may be formed as a fiber aggregate in which the predetermined amount of above-mentioned fibers is aggregated in advance. It is preferable from a workability and productivity point of view to use this as the absorber for retaining liquid and to pack this in a spray can.

As the method for aggregating fibers, the above-mentioned fibers packed in a bag consisting of a sheet of paper, non-woven fabric, etc. that have predetermined breathability may be used as the absorber consisting of fiber aggregate. By packing fibers in a bag, it can be prepared as a molding with predetermined shape, and scattering of fibers in manufacturing process can be prevented.

[0032]

To be more specific, if it is formed as a cylindrical molding of the size suitable for the inner diameter of the spray can in accordance with the shape of the spray can, it is easy to pack and can be held in the spray can stably during use.

[0033]

In addition, the above-mentioned fibers formed into predetermined shape by compression, etc. can be used as the absorber.

As a preferable shape of the absorber of the invention, to be specific, absorbers in sheet-like form can be pointed out. The absorber formed in sheet-like form can be packed as it is, but, since it has excellent flexibility of shape, it is also possible to use it by appropriately folding or forming into a roll suitable for the inner diameter of the spray can and packing in the spray can.

Other than those, a cylindrical absorber can be pointed out as a preferable absorber of the invention. Namely, it is possible to use the above-mentioned fibers formed into a cylinder with a size suitable for the inner diameter of the spray can, which may be used by packing in the spray can.

[0034]

As described above, for forming absorbers consisting of cellulose fibers, it is necessary to bond fibers together. Accordingly, for obtaining such absorbers, it is desirable to form while adding a substance that functions as a binder.

To be specific, it is possible to obtain such absorbers, after causing a binder consisting of water-soluble resin, etc. to adhere by spraying, by accumulating in sheet-like form, or letting it dry in a forming mold.

The binder to be used can be appropriately selected according to the requirement, and, for example, aqueous solution-type binders such as casein, sodium alginate, hydroxyethyl cellulose, carboxymethylcellulose sodium, polyvinyl alcohol (PVA), and sodium poly acrylate; emulsions such as polyacrylic acid esters, acryl/styrene copolymer, polyvinyl acetate, ethylene/vinyl acetate copolymer, acrylonitrile/butadiene copolymer, and methylmethacrylate/butadiene copolymer; and emulsion-type binders such as styrene/butadiene copolymer latex, etc. can be used.

If this method is used, however, there is a risk of degradation of performance of the absorber, because the surfaces of fibers are covered by the binder."

(E) "[Examples]

[0041]

The invention is further explained in detail based on working examples.

<Example 1>

(1) Manufacture of fine cellulose fibers

Using water, 1.5% suspension of commercially available hardwood bleached kraft pulp (LBKP) was prepared and fine cellulose fibers were obtained by wet-comminuting 120 g of the suspension for 40 minutes using a six cylinder sand grinder (made by Aimex; processing capacity: 300 ml) containing 125 ml of glass beads with mean particle size 0.7 mm as media with the number of rotations of the stirring machine 2000 rpm and processing temperature about 20°C.

Before processing, the fiber length of commercially available LBKP was 0.61 mm, fiber width 20 μm, water retentivity 44%,, and, after processing, number average fiber length of the cellulose fibers was 0.25 mm, fiber width 1 to 2 μm, and water retentivity 288%.

(2) Manufacture of absorbers

Mixed fibers 85 g comprising 55% by mass of cellulose fibers obtained by defibrating commercially available LBKP with dry defibrating equipment and 45% by mass of fine cellulose fibers obtained in (1) were packed in a cylindrical bag made of 18 g/m^2 thermal bond non-woven fabric (Made by Fukusuke Kogyo; commercial name: D-01518) and an absorber that has an almost cylindrical shape with a diameter of about 6.3 cm was obtained.

The cellulose fibers comprised 48% by mass of fibers having a fiber length of 0.35 mm or less."

(F) "[0045]

<Example 5>

By defibrating the commercially available LBKP with dry defibrating equipment and classifying obtained cellulose fibers, cellulose fibers comprising 45% by mass or more of fine cellulose fibers (fiber length 0.35 mm or less) were obtained. After uniformly mixing 70% by mass of the cellulose fibers and 30% by mass of thermally bonding fibers (PE/PET core-sheath type thermally bonding fiber; fiber length 5 mm; fiber diameter 2.2 dt; made by Chisso Corporation; commercial name: ETC) in the air, the cellulose fibers were caused to fall together with air flow and accumulate on a surface sheet (tissue paper, 14 g/m^2, thickness 0.15 mm, made by Nittoku) veered out on a running endless mesh-formed conveyor using the air laid method web-forming machine, a surface sheet the same as the above-mentioned one was further layered to form a web, and the web was passed through an air dryer at 138°C, and an absorber sheet of 40/m^2 was obtained.

The absorber sheet obtained by the above operation was further wound to form a coreless roll (about 6.3 cm in diameter, 85 g) and the absorber was obtained."

(G) "[0051]

Absorbers obtained by working examples and comparative examples were evaluated with the following method. The results are shown in Table 1.

[Liquid leak evaluation test]

Containers in the same shape as that of commercially available dust blower (external diameter 66 mm, 20 cm in height) are filled with absorbers obtained by working examples and comparative examples, and with 350 ml of liquefied petroleum gas (LPG), and left to stand for 30 minutes. After that, the containers were held in an inverted state and the gas was jetted and the time until liquid leak from the jetting section occurred was measured.

Absorbers for which time until liquid leak occurs is 20 seconds or more can be used as absorbers for spray cans for dust blowers or torch burners and are marked with ○. On the other hand, absorbers with which liquid leak occurs in less 20 seconds cannot be used and are marked with x.

[0052]

[Evaluation of discoloration]

The absorber and dimethyl ether (DME) were put into a test glass bottle for developing aerosol and the bottle was sealed and left to stand for two weeks at room temperature and, after that, DME was checked for coloring.

[0053]

[Table 1]

	実施例 1	実施例 2	実施例 3	実施例 4	実施例 5	実施例 6	実施例 7	比較例 1	比較例 2	比較例 3
吸収体（g）	85	85	85	85	85	85	90	85	75	85
液漏秒数（秒）	30秒以上	30秒以上	30秒以上	30秒以上	約25秒	約25秒	約20秒	約2秒	約5秒	約10秒
液漏評価	○	○	○	○	○	○	○	×	×	×
着色	無	無	無	無	無	無	無	無	発生	発生

吸収体 Absorber
液漏秒数(秒) Seconds until liquid leak occurs (seconds)
液漏評価 Evaluation for liquid leak
着色 Coloring
実施例 Example
比較例 Comparative example
３０秒以上 30 seconds or more
約２５秒 About 25 seconds
約２０秒 About 20 seconds
約２秒 About 2 seconds
約５秒 About 5 seconds
約１０秒 About 10 seconds
無 None
発生 Occurred

(H) First invention of A1

Among descriptions in above (A) to (G), by marshalling matters that relate to Example 1 based on common general technical knowledge, it can be deemed that A1 describes the following invention.

"A spray can product in which a spray can provided with a spraying nozzle is filled with liquefied petroleum gas and an absorber, wherein

the absorber is configured by filling a bag of non-woven fabric with 55% by mass of cellulose fibers obtained by defibrating commercially available LBKP, and 45% by mass of fine cellulose fibers obtained by comminuting commercially available LBKP" (hereinafter, referred to as the "first invention of A2")

(J) Second invention of A1

Judging from the description in paragraph [0033], it is obvious that the absorber in Example 5 is directly packed into the spray can. By marshalling matters that relate to Example 5 based on common general technical knowledge, it can be deemed that A1 describes the following invention.

"A spray can product in which a spray can provided with a spraying nozzle is filled with liquefied petroleum gas and an absorber, wherein:

the absorber is composed of cellulose fibers obtained by defibrating commercially available LBKP with a dry defibrating equipment and classifying obtained cellulose fibers and comprising 45% by mass of the fine cellulose fibers, and

the cellulose fibers are, after being mixed with thermally bonding fibers, pressed into a sheet-like form, and formed in a coreless roll, directly packed in the spray can" (hereinafter, referred to as the "second invention of A2").

B. Matters described in A2

(A) "[0001]

[Industrial Application Field]

The device relates to a cleaning device for small-size precision equipment and complex equipment.

[0002]

[Conventional art]

In the past, for cleaning small precision equipment and complex equipment, feather brushes, brushes, etc. were used for small scale operation. On the other hand, for cleaning precision equipment, PC boards, etc. during production in a plant, air guns, etc. were used.

[0003]

[Problem to be solved by the Device]

However, it is difficult to clean in detail with feather brushes, brushes, etc., and, a cleaning method in which an air gun is used can clean in detail, but this requires investment for air equipment, etc. Therefore, the method can be used only in the case in which a large amount is treated in a fixed place such as a plant.

[0004]

The task of the device is to solve the above problem and provide an air-jetting type cleaner that is not expensive and can be used in any place.

[0005]

[Means for solving the problem]

For solving the above problem, in cleaners for small precision equipment and complex equipment, a can body 1 is filled with a non-combustible liquid 3 in a pressurized state that evaporates at normal temperature, and, a push-button type valve 2 which is provided with an ejection hole 2A is provided in the upper part of the can body 1.

[0006]

The non-combustible liquid 3 is prepared as a mixture of 75% or more of hydrofluorocarbon 134A (HFC134A) and 25% or less of dimethyl ether (DME).

[0007]

[Examples]

Fig. 1 is a cross-section of an air-jetting type cleaner of a working example of the device. A push-button type valve 2 is provided on the top of a small can body 1. The can body 1 is filled only with a non-combustible liquid 3 in a pressurized state that evaporates at normal temperature.

[... (Omitted) ...]

[0012]

Figure 2 shows another working example in which an open-cell packing 4 is inserted in a position inside the can body 1 below the push-button type valve 2 but above the non-combustible liquid 3. By arranging so, even if the cleaner is used with the can body 1 in an inverted state, no non-combustible liquid 3 spouts as liquid, and gas flow regulation is improved.

[0013]

[Advantage of the Device]

As described above, the can body 1 is small, and, since it does not need a wide open space for storage, no expensive equipment such as air equipment is required.

[0014]

Since non-combustible liquid (gas) is used, it is possible to use the can body 1 in a small room.

[0015]

Thanks to the open-cell packing 4 inside the can body 1, even if the cleaner is used with the can body 1 upside down, non-combustible liquid 3 does not spout as liquid not evaporating in the can body 1."

(B) Technical matters of A2

Marshalling matters described in A2 based on common general technical knowledge, A2 describes the following technical matters.

"A spray can product in which a spray can provided with a spraying nozzle is filled with a non-combustible liquefied gas, wherein

an open-cell packing is inserted at a position inside the can body below the push-button type valve but above the non-combustible liquid."

C. Matters described in A3

In Table 1, in the column, "9.1 Kurikaeshi seido" in A3, page 3, it is indicated that the average ash content of chemical pulp and mechanical pulp is 0.71%.

D. Matters described in B11

In "Table 18 Shuyo himokuzai oyobi mokuzaino kagakusosei" in B11, page 80, it is indicated that the ash content of hardwood is 0.1 to 2.0%.

(4) Regarding the Patent Invention 1

A. Comparison between Patent Invention 1 and the first invention of A1

Comparing Patent Invention 1 and the first invention of A1, it is obvious that "liquefied petroleum gas" in the first invention of A1 corresponds to "combustible liquefied gas" in Patent Invention 1, and, similarly, "absorber" corresponds to "absorber for retaining liquid", and "Mixed fibers ... comprising 55% by mass of cellulose fibers obtained by defibrating commercially available LBKP and 45% by mass of fine cellulose fibers obtained by comminuting commercially available LBKP" corresponds to "cellulose fiber aggregate."

Then, Patent Invention 1 and A1 coincide with or differ from each other in the following points.

<Corresponding Feature 1>

"A spray can product in which a spray can provided with a spraying nozzle is filled with a combustible liquefied gas and an absorber for retaining liquid, wherein
the absorber is composed of a cellulose fiber aggregate."

<Different Feature 1>

While the cellulose fiber aggregate of Patent Invention 1 is "consisting of ash content within the range of 1% by weight or more but below 12% by weight", it is not known what extent of ash content is contained in the cellulose fiber aggregate of the first invention of A1.

<Different Feature 2>

While "the absorber formed to correspond to the shape of the spray can is contained in the spray can to provide an open space on the spraying nozzle side and a

breathable cover-like member is arranged between the open space and the absorber to breathably protect the surface of the absorber, and

the cover-like member is a disc-shaped porous body press-fitted into the spray can and contacting the surface of the absorber, or a porous protective layer integrally formed on the surface of the absorber" in Patent Invention 1, the first invention of A1 does not have any cover-like member.

B. Regarding Different Feature 1

It can be understood that the material of the cellulose fiber aggregate of the first invention of A1 is commercially available LBKP, and LBKP (Laubholz Bleached Kraft Pulp) means bleached kraft pulp of broad-leaf tree that is a chemical pulp having hardwood as material and, according to A3, the average ash content of chemical pulps is 0.71, and, according to B11, the ash content of hardwood that is the material for LBKP is 0.1 to 2.0%. In addition, since Demandee asserts that the ash content of commercially available LBKP could be 1% by weight or any other value (No. 5, 8, [Demandee] (3)), it can be deemed that there are some commercially available LBKP in which ash content exceeds 1% by weight and some in which ash content is below 1% by weight.

Namely, if anyone intends to work the first invention of A1, it is necessary to purchase commercially available LBKP, and, then, it is carried out with an ash content of around 0.1 to 2% (by the way, Demandee asserts that the cellulose fiber aggregate of Patent Invention 1 includes not only recycled waste-paper but also LBKP (No. 5, 1, [Demandee] (1) and No. 5, 2, [Demandee] (1)).

As described in above (2), however, no special technical significance is acknowledged in the fact that 1% was specified for the lower limit value. In addition, as shown in No. 5, 8, [Demandee] (3), with respect to 1%, it merely means that the ash content of commercially available LBKP purchased by Demandee happened to be 1%.

Accordingly, in the first invention of A1, it cannot be acknowledged that there was any difficulty in using LBKP having an ash content exceeding 1% by weight available in the market as a commercially available LBKP that composes the absorber.

Demandee asserts that A1 neither describes nor suggests the viewpoint that the liquid retaining performance depends on the ash content value (No. 5, 8, [Demandee] (4)), but, since the lower limit value of the numerical range in Patent Invention 1, 1%, does not have technical significance of limiting the total retention time to around 200 seconds, Demandee's assertion cannot be accepted.

Judging from the above, there is no special difficulty in adopting normally existing commercially available LBKP in which ash content exceeds 1% by weight as the cellulose fiber aggregate of the first invention of A1.

C. Regarding Different Feature 2

(A) A2 describe a technical matter, "A spray can product in which a spray can provided with a spraying nozzle is filled with a non-combustible liquefied gas, wherein an open-cell packing is inserted in a position inside the spray can below the push-button type valve but above the non-combustible liquid", and, according to paragraph [0015] in A2, since an advantage that, by inserting an open-cell packing, the non-combustible gas never spouts as a liquid even if the spray can product is used with the can body in an inverted state is shown, a person skilled in the art who assesses A2 can recognize that the packing is provided so that the liquid does not directly flow into the valve as an art to prevent liquid leak when the spray can is in the inverted state.

(B) On the other hand, the first invention of A1 also recognizes prevention of liquid leak when the spray can is in the inverted state, and it is a matter to be naturally taken into consideration so that the liquid does not move to the valve in the inverted state, and it can be deemed that, since the phenomenon of liquid leak of the combustible gas in the first invention of A1 is very dangerous, a person skilled in the art should have taken countermeasures against liquid leak redundantly for increasing safety. Therefore, a person skilled in the art could have easily conceived to configure the packing of A2 to closely contact the cellulose fiber aggregate of the first invention of A1.

(C) Demandee asserts that, since the open-cell packing of A2 does not correspond to the "breathable cover-like member" in Patent Invention 1, and the spray can of A2 does not contain any absorber, there is no motivation to combine the invention according to A1 with the open-cell packing of A2 (No. 5, 8, [Demandee] (1), (2), and (4)). Since it is obvious that the open-cell packing of A2 has breathability, however, there is no choice but to say that, if the open-cell packing of A2 is applied to the first invention of A1, it becomes the same configuration as the "breathable cover-like member" of Patent Invention 1. In addition, the absorber is a member for retaining liquid, but, since A2 discloses that even if such absorber does not exist, liquid leak in the inverted state can be prevented by inserting an open-cell packing, a person skilled in the art who tries to avoid a very dangerous phenomenon, liquid leak of combustible gas in the first invention of A1 would provide an open-cell packing redundantly in addition to the absorber of the first invention of A1, and there is a sufficient motivation to apply the packing of A2 to the first invention of A1.

(D) Furthermore, Demandee asserts that it cannot happen to provide the open-cell packing of Invention A2 to the first invention of A1 by reason that the open-cell packing of A2 is fixed as if pressed into the can to the valve side and no sufficiently large open space is formed on the valve side (No. 5, 8, [Demandee] (9)). However, A2 has a description, "open-cell packing 4 is inserted in a position inside the can body 1 below the push-button type valve 2 but above the non-combustible liquid 3" (paragraph [0012]), but it is not mentioned that the open-cell packing is pressed into the can to the valve side, and no sufficiently large open space is formed on the valve side. Demandee's assertion is based on only Fig. 2 in A2, and it is reasonable to understand that Fig. 2 in A2 is briefly shown for assisting understanding of the invention disclosed in A2, and, since it cannot be found based only on such drawing that open-cell packing is pressed into the can to the valve side, and that no large open space is formed on the valve side, Demandee's assertion cannot be accepted.

Judging from the above, a person skilled in the art could have easily conceived based on the technical matters of A2 to adopt the configuration according to Different Feature 2 in the first invention of A1.

D. Closing for the case in which the first invention of A1 is applied as the main cited reference for Patent Invention 1

A person skilled in the art could have easily invented Patent Invention 1 based on the first invention of A1 and technical matters of A2.

E. Comparison between Patent Invention 1 and the second invention of A1

Comparing Patent Invention 1 and the second invention of A1, it is obvious that the "liquefied petroleum gas" of the second invention of A1 corresponds to the "combustible liquefied gas" of Patent Invention 1, and, similarly, the "absorber" corresponds to the "absorber for retaining liquid", and " cellulose fibers obtained by defibrating the commercially available LBKP with dry defibrating equipment and classifying obtained cellulose fibers, the cellulose fibers comprising 45% by mass or more of fine cellulose fibers " corresponds to the "cellulose fiber aggregate."

Then, Patent Invention 1 and the second invention of A1 coincide with or differ from each other in the following points.

<Corresponding Feature 2>

"A spray can product in which a spray can provided with a spraying nozzle is filled with a combustible liquefied gas and an absorber for retaining liquid, wherein

the absorber is composed of a cellulose fiber aggregate."

<Different Feature 3>

While the cellulose fiber aggregate of Patent Invention 1 "consists of ash content within the range of 1% by weight or more but below 12% by weight", it is not known what extent of ash content is contained in the cellulose fiber aggregate of the second invention of A1.

<Different Feature 4>

While "the absorber formed to correspond to the shape of the spray can is contained in the spray can to provide an open space on the spraying nozzle side and a breathable cover-like member is arranged between the open space and the absorber to breathably protect the surface of the absorber, and

the cover-like member is a disc-shaped porous body press-fitted into the spray can and closely contacting the surface of the absorber, or a porous protective layer integrally formed on the surface of the absorber" in Patent Invention 1, the second invention of A1 does not have any cover-like member.

F. Regarding Different Feature 3

For similar reason to the reason indicated in above B, there is no special difficulty in adopting normally existing commercially available LBKP having an ash content exceeding 1% as the cellulose fiber aggregate of the second invention of A1.

G. Regarding Different Feature 4

For a similar reason to the reason indicated in above C, a person skilled in the art could have easily conceived based on the technical matters of A2 to adopt the configuration according to Different Feature 4 in the second invention of A1.

H. Closing for the case in which the second invention of A1 is applied as the main cited reference for Patent Invention 1

A person skilled in the art could have easily invented Patent Invention 1 based on the second invention of A1 and the technical matters of A2.

(5) Regarding Patent Invention 6

While Patent Invention 6 limits the liquefied gas of Patent Invention 1 to "a combustible liquefied gas used as a blowing agent or a fuel", paragraph [0001] of A1

describes "dust blowers" and "canisters for torch burners." A person skilled in the art could have easily conceived to configure the "liquefied petroleum gas" of the first invention and the second invention of A1 to be used as a blowing agent or a fuel.

Accordingly, a person skilled in the art could have easily invented Patent Invention 6 based on the first invention of A1 and the technical matters of A2. In addition, a person skilled in the art could have easily invented Patent Invention 6 based on the second invention of A1 and the technical matters of A2.

(6) Regarding Patent Invention 8

A. Comparison between Patent Invention 8 and the first Invention of A1

Comparing Patent Invention 8 and the first Invention of A1, they coincide with each other in Corresponding Feature 1 and differ from each other, in addition to Different Features 1 and 2, in the following point.

<Different Feature 5>

While the cellulose fiber aggregate of Patent Invention 8 is "compression-molded into a block-like shape that corresponds to the shape of the spray can, or compression-molded into a sheet-like shape and rolled into the shape of the spray can, and directly packed into the spray can", the cellulose fiber aggregate of the first invention of A1 is "packed in a bag of non-woven fabric."

B. Regarding Different Feature 5

Since paragraph [0031] of A1 recites "it is possible to make the absorber of the invention by adjusting so that the obtained comminuted cellulose fibers comprise desired fine cellulose fibers and packing predetermined amount directly into the spray can in accordance with the size of the spray can", it is a matter that a person skilled in the art could have easily conceived to pack the cellulose fiber aggregate of the first invention of A1 directly into the spray can instead of packing the cellulose fiber aggregate into a bag of non-woven fabric, and it is obvious that, if the cellulose fiber aggregate is packed in such a manner, the cellulose fiber aggregate gets in a state in which it is compression-molded into block-like shape that corresponds to the shape of the spray can.

Accordingly, a person skilled in the art could have easily conceived to make the first invention of A1 have the configuration according to Different Feature 5.

C. Regarding Different Features 1 and 2

Judgments on Different Features 1 and 2 are as explained in the above (4), B and C.

D. Closing for the case in which the first invention of A1 is applied as the main cited reference for Patent Invention 8

A person skilled in the art could have easily invented Patent Invention 8 based on the first invention of A1 and the technical matters of A2.

E. Comparison between Patent Invention 8 and the second invention of A1

Comparing Patent Invention 8 and the second invention of A1, it is obvious that "liquefied petroleum gas" of the second invention of A1 corresponds to "combustible liquefied gas" of Patent Invention 8, and, similarly, "absorber" corresponds to "absorber for retaining liquid", " cellulose fibers obtained by defibrating the commercially available LBKP with dry defibrating equipment and classifying obtained cellulose fibers, the cellulose fibers comprising 45% by mass or more of fine cellulose fibers " corresponds to "cellulose fiber aggregate", and "the cellulose fibers are, after being mixed with thermally bonding fibers, pressed into a sheet-like form, and formed in coreless roll, directly packed in the spray can" corresponds to "the cellulose fiber aggregate" being "compression-molded into a sheet-like shape and rolled into the shape of the spray can, and directly packed into the spray can."

Then, Patent Invention 8 and the second invention of A1 coincide with each other in the following point, and differ from each other in Different Features 3 and 4.

<Corresponding Feature 3>

"A spray can product consisting of a spray can provided with a spraying nozzle is filled with combustible liquefied gas and an absorber for retaining liquid, wherein:
the absorber consists of a cellulose fiber aggregate,
the cellulose fiber aggregate is compress-formed into a sheet shape and rolled into the shape of the spray can, and directly packed into the inside of the spray can."

F. Different Features 3 and 4

Judgments on Different Features 3 and 4 are just as indicated in the above (4), F and G.

G. Closing for the case in which the second invention of A1 is applied as the main cited reference for Patent Invention 8

A person skilled in the art could have easily invented Patent Invention 8 based on the second invention of A1 and technical matters of A2.

(7) Closing for the reason for invalidation 8

As described above, a person skilled in the art could have easily invented Patent Inventions 1, 6, and 8 based on the first invention of A1 and technical matters of A2, and a person skilled in the art could have easily invented Patent Inventions 1, 6, and 8 based on the second invention of A1 and technical matters of A2.

Patent Invention 2 has been cancelled by the correction.

No. 8 Closing

The patent for inventions according to Claims 1, 6 and 8 has been granted to a patent application that does not comply with the requirement set forth in Article 36(6)(i) of the Patent Act, and falls under Article 123(1)(iv) of the Patent Act, and, in addition, has been granted in violation of the provisions of Article 29(2) of the Patent Act, and falls under Article 123(1)(ii) of the Patent Act; therefore, the patent for inventions according to Claims 1, 6, and 8 should be invalidated without examining reasons for invalidation 1, and 3 to 7.

On the other hand, since the patent according to Claim 2 has been cancelled by the correction, the demand for trial for invalidation of Claim 2 made by Demandant lacks the target claim.

One-quarter and three-quarters of the costs in connection with the trial shall be borne by Demandant and Demandee, respectively, under the provisions of Article 61 of the Code of Civil Procedure which is applied mutatis mutandis in the provisions of Article 169(2) of the Patent Act.

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

December 15, 2017

Chief administrative judge: HIRAIWA, Shoichi
Administrative judge: KARIMA, Hironobu
Administrative judge: KASHIWABARA, Kuniaki