Appeal decision

Appeal No. 2016-19074

Tokyo, Japan
Appellant FUMAKILLA LIMITED

Osaka, Japan
Patent Attorney MAEDA & PARTNERS

The case of appeal against the examiner's decision of refusal for Japanese Patent Application No. 2012-173268, titled "INSECTICIDAL AEROSOL DEVICE" [Published on February 20, 2014 as Japanese Unexamined Patent Application Publication 2014-30391], has resulted in the following appeal decision.

Conclusion

The appeal of the case was groundless.

Reason

No. 1 History of the procedures

The present application was filed on August 3, 2012, for which a notice of Reasons for rejection was issued on March 11, 2016; in response, a written opinion and a written amendment were filed on May 16, 2016, but a Decision of Rejection was issued on September 12, 2016.

In response, a notice of appeal against the decision of refusal was filed on December 20, 2016.

No. 2 Regarding the invention

1 The Invention

The invention of Claim 1 in the scope of the claims of the present application (hereinafter referred to as "the Invention") should be specified by the matters recited in Claim 1 of the scope of the claims that have been amended by the written amendment on May 16, 2016, as follows.

"An insecticidal aerosol device containing an aerosol composition in an aerosol container, configured to spray said aerosol composition from said aerosol container by a spraying mechanism,

wherein the above aerosol composition comprises an insecticidal active ingredient of 4-methoxymethyl-2,3,5,6-tetrafluorobenzyl-3-(2-cyano-1-propenyl)-2,2-dimethylcyclopropane carboxylate as a major component, and a spraying agent with volatility,

wherein the content of said spraying agent in said aerosol composition of said aerosol container is designed to be 80 weight percent or more 99 weight percent or less,

wherein an average particle size of said aerosol composition sprayed horizontally

from said spraying mechanism is designed to be 15 μm or more to 70 μm or less at a point 50 cm distant from an ejection port of said spraying mechanism in horizontal airline distance."

2 Cited Publications

Japanese Unexamined Patent Application Publication No. 2003-12422 (hereinafter referred to as "Cited Document 1"), a publication published before the present application cited in the reasons for refusal stated in the examiner's decision, discloses the following matters: (Note that the underlines were made by the body.)

(1) "[0001]

[Field of the Invention] The present invention relates to an aerosol for the prevention of flying bugs and to a method for the prevention of flying bugs.

[0002]

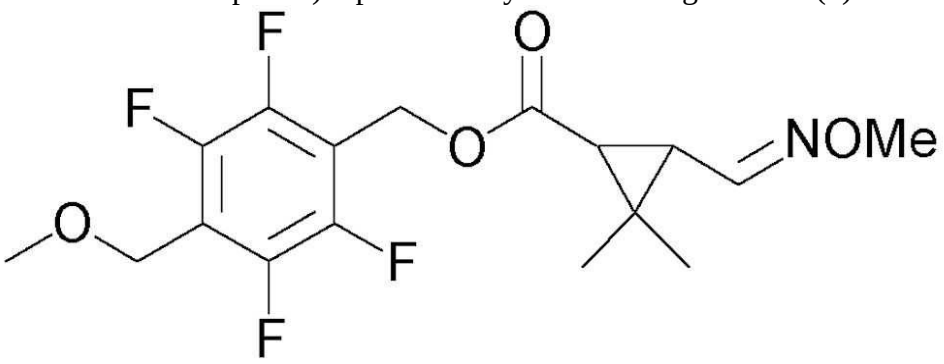
[Conventional Art] Conventionally, many products have been developed and sold as aerosols for the prevention of flying bugs. There is an important method for applying the aerosol, comprising directly spraying on bugs flying in a house or bugs on a wall, and treating the fallen bugs. To apply this method, it is desirable to achieve an instant knockdown effect on bugs. The instant effect may lead to the on-site treatment of killed bugs. When a conventional aerosol product is used, however, it is difficult to directly knock down and bring down, e.g. a house fly, etc. even by direct hit spraying. Therefore, it has been usual practice to spray many times on bugs that are continuing to fly. The spraying of large amount of aerosol leads to an increase of concentration of drug in a house, which thus poses a concern about the effect on the person spraying, etc. due to the aspiration of sprayed particles, etc.

[0003] Accordingly, there is a need for the development of an aerosol for the prevention of flying bugs with higher instant effect capable of knocking down flying bugs instantly by spraying, thereby allowing for on-site treatment of the bugs when used for a prevention method to implement direct hit spraying on the flying bugs. Further, increasing a ratio of a liquid formulation in an aerosol and bringing pests into contact with more particles including an insecticidal component may usually increase an instant effect of aerosol for the prevention of pests (since an insecticide content % has an aerosol weight as a denominator, an insecticide amount is not changed even if a liquid formulation ratio increases, so long as a spraying amount is the same), whereas, for example when an aerosol with a high liquid formulation ratio is sprayed to a fly on a wall, the wall surface gets wet by the liquid formulation, and the wet part is likely to be distinct. Such phenomenon is not always favored by consumers, but rather a type with a larger proportion of a spraying agent to a liquid formulation in aerosol tends to be favored because it can instantly cause a surface of, e.g., a sprayed wall to be dried and achieve drying sensation.

[0004]

[Problem to be solved by the invention] The object of the present invention is to provide an aerosol for the prevention of flying bugs with excellent instant effect against flying bugs capable of achieving drying sensation to the extent that causes a sprayed surface to be dried immediately, in particular, to provide an aerosol for the prevention of flying bugs, and having instant effect to the extent that allows users to directly knock down a target bug when directly sprayed on the target bug at a distance of 1 m or so and treat the killed bug.

[0005]
[Means for solving the problem] The inventors have investigated an aerosol for the prevention of flying bugs, and found that an aerosol can achieve the aforesaid goal by using a specific insecticidal active ingredient, specifying not only solvent species used, but also setting up a higher ratio of a spraying agent to a liquid formulation in aerosol and adjusting a spraying particle diameter when spraying aerosol to a specific range, to thereby complete the invention.
[0006] Specifically, the invention relates to an aerosol for the prevention of flying bugs, comprising a mixture of a liquid formulation and a spraying agent in a pressure-resistant container equipped with an ejection port, the liquid formulation comprising: a solvent mainly composed of saturated hydrocarbon; and a carboxylic acid ester (hereinafter written as the compound) represented by the following formula (1):



(1)

, wherein a weight ratio of a liquid formulation to a spraying agent is 4/6 to 1/9, and a volume average particle size of a spraying particle is 20 to 40 μm (hereinafter written as 'the aerosol').
[0007]
[Embodiments of the invention] The aerosol contains a mixture of a liquid formulation and a spraying agent in a pressure-resistant container equipped with an ejection port, the liquid formulation comprising: a solvent mainly composed of saturated hydrocarbon; and an active ingredient of the compound (hereinafter simply referred to as the 'liquid formulation' in some cases.).
[0008] The compound name of the compound is 3-methoxyiminomethyl-2,2-dimethylcyclopropane carboxylic acid (2,3,5,6-tetrafluoro-4-(methoxymethyl) phenyl)methyl. Various optical isomers and geometric isomers exist. Among them, any isomer with insecticidal activity and any mixture including the same may be used for the aerosol. The compound is usually contained in a liquid formulation at a concentration of 0.01 to 5 weight%, preferably 0.05 to 1 weight%.
[0009] The solvent used in the aerosol mainly consists of saturated hydrocarbon. The saturated hydrocarbon is contained in the solvent at a concentration of preferably 90 weight% or more, and more preferably a solvent substantially consisting of only saturated hydrocarbon is used. Further, saturated hydrocarbon preferably includes 90 weight% or more of saturated hydrocarbon having a carbon number of 11 to 17, and more preferably includes only saturated hydrocarbon having a carbon number of 11 to 15."

(2) "[0012] A spraying agent of the aerosol may include, for example, propane, n-

butane, isobutane, dimethyl ether, methylethyl ether, methylal, etc. or a mixture of two or more of the same.

[0013] The aerosol is designed to have a volume average particle size of spraying particle of 20 to 40 μm at 50 cm distant from an ejection port of the aerosol when a mixture consisting of a liquid formulation and a spraying agent is sprayed (hereinafter when simply referring to volume average particle size of spraying particle, it means a volume average particle size of spraying particle at a distance of 50 cm from an ejection port of the aerosol).

[0014] A volume average particle size of such spraying particle may be measured by use of, for example, a particle diameter measurement device Type 2600 manufactured by Malvern Panalytical Ltd.

[0015] To adjust a volume average particle size of spraying particle of the aerosol to 20 to 40 μm within the weight ratio of a mixture of a liquid formulation to a spraying agent of 4/6 to 1/9, it is sufficient to design the specification such as pore diameter and type of each part constituting a valve system (meaning a system comprising both valve and actuator) as necessary in accordance with an initial can pressure of aerosol.

[0016] First, when it comes to the case where the weight ratio of the liquid formulation to spraying agent is 25/75 as an adjustment method of particle diameter, a valve composed of a part having a specification of a stem pore of 0.51 mm, a housing pore of 0.64 mm, and lacking a vapor tap pore is attached, and butane/propane-mixed liquefied gas of 3.6 kg/cm^2 (gauge pressure at 20°C) is filled in such a manner that the above weight ratio relative to the liquid formulation may be achieved. Equipped with an actuator having a pore diameter range of 0.9 to 2 mm, an aerosol having a volume average particle size of spraying particle of 20 μm to 40 μm may be obtained. Further, by use of a certain valve system, a volume average particle size of spraying particle of aerosol is first measured at a certain initial can pressure. When the volume average particle size is deviated from the range of 20 μm to 40 μm, the volume average particle size of spraying particle may be adjusted to a smaller size by using a plurality of stem pores, enlarging a stem pore diameter, or creating a vapor tap pore with a diameter of, e.g., about 0.3 to 0.5 mm in a housing unit without changing, e.g., pore diameter of the actuator, whereas decreasing a pressure of spraying agent to be filled may result in a larger volume average particle size of spraying particle. A combination of these measures as necessary may adjust a volume average particle size of the spraying particle to a desired value. However, if the pressure of the spraying agent is too low, the reaching distance of spraying particle gets shorter. Thus initial can pressure of aerosol at 25°C is 3 kg/cm^2 gauge pressure or more, preferably 4 kg/cm^2 gauge pressure or more.

[0017] When the weight ratio of a liquid formulation to a spraying agent is 4/6 or so and the same valve system is used, the particle diameter tends to be larger than an aerosol with a weight ratio of the liquid formulation to the spraying agent of 25/75. Accordingly, the selection of actuator with a smaller pore diameter of about 0.5 to 1.5 mm may result in the adjustment of a volume average particle size of spraying particle to a smaller size. Specifically, by use of a certain valve system, a volume average particle size of spraying particle of aerosol is first measured with a certain initial can pressure. When the volume average particle size falls out of the range of 20 μm to 40 μm, the volume average particle size of spraying particle may be adjusted to a smaller size by enlarging a stem pore diameter, or creating a vapor tap pore with a diameter of

0.3 mm or more without changing, e.g., a pore diameter of the actuator. Further, if a volume average particle size of spraying particle is increased, it is sufficient to select parts with a specification contrary to the above. These measures are combined as necessary to adjust a volume average particle size of spraying particle to a desired size. Simultaneously, the initial can pressure of aerosol is preferably in a range of 3 to 6 kg/cm^2 gauge pressure at 25°C.

[0018] When the weight ratio of a liquid formulation to a spraying agent is 1/9 or so and the same valve system is used, the particle diameter tends to be smaller than an aerosol with a weight ratio of the liquid formulation to the spraying agent of 25/75. The use of a lower pressure gas as a spraying agent to be filled may facilitate adjustment of a volume average particle size of spraying particle. The stem pore of the valve is one pore at an interval of about 0.3 to 0.5 mm, and the vapor tap pore of housing is 0 (no pore) to 0.3 mm, preferably no pore. The actuator is preferably equipped with an extension tube that enlarges a particle diameter and has a pore diameter of 1 to 2 mm or more. The volume average particle size of spraying particle may be adjusted by the aforementioned method. Simultaneously, it is preferable to implement such that the aerosol initial can pressure may range from about 2.5 to 5 kg/cm^2 gauge pressure."

(3) "[0040]
[Table 1]

試験エアゾール	缶内圧 (Kg/cm^2)	噴射速度 (g/秒)	体積平均粒子径 (μm)	KT_{90}平均値 (秒)
本エアゾール１	４．６	１．７３	３２	１６．４
本エアゾール２	２．７	１．５４	４０	２４．５
本エアゾール３	５．４	２．２０	２７	２４．６
本エアゾール４	４．５	１．１１	２１	２６．９
比較エアゾール１	４．５	１．１１	１８	３４．０
比較エアゾール２	５．４	０．６４	９	５２．２
比較エアゾール３	２．７	１．５６	５５	４７．８
比較エアゾール４	４．５	１．１２	４９	５７．２

試験エアゾール　Tested aerosol
缶内圧　Can inner pressure
噴射速度（ｇ／秒）　Spraying rate (g/second)

体積平均粒子径　Volume average particle size
平均値（秒）　Average value (second)
本エアゾール　Aerosol of the Invention
比較エアゾール　Comparative aerosol"

It is recognized from the above description of item (2) (in particular, paragraph [0015]) that "pressure-resistant container" comprises "a valve system equipped with both a valve and an actuator."

Consequently, in view of the description of Cited Document 1, Cited Document 1 discloses the following invention (hereinafter referred to as "Cited Invention").

"An aerosol for the prevention of flying bugs in which a mixture of a liquid formulation and a spraying agent is contained in a pressure-resistant container equipped with a valve system comprising both a valve and an actuator, and an ejection port, said liquid formulation comprising a solvent mainly consisting of saturated hydrocarbon and an active ingredient of the compound, and

wherein the compound is 3-methoxyiminomethyl-2,2-dimethylcyclopropane carboxylic acid (2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl) methyl, and

wherein the spraying agent may include propane, n-butane, isobutane, dimethyl ether, methylethyl ether, methylal, etc. or a mixture of two or more of these, and

wherein the aerosol is designed to have a volume average particle size of spraying particle of 20 to 40 μm at 50 cm distant from the ejection port of the aerosol when the mixture consisting of the liquid formulation and the spraying agent is sprayed, and

wherein a weight ratio of the mixture consisting of the liquid formulation to the spraying agent is 4/6 to 1/9."

3 Comparison

(1) Comparison between the Invention and the Cited Invention

A "A pressure-resistant container," "an ejection port and a valve system comprising both a valve and an actuator," "an active ingredient of the compound," "a spraying agent," "a mixture of a liquid formulation and a spraying agent, said liquid formulation comprising a solvent mainly consisting of saturated hydrocarbon and an active ingredient of the compound" and "an aerosol for the prevention of flying bugs" of the Cited Invention respectively correspond to "an aerosol container," "ejection mechanism," "insecticidal active component," "spraying agent," "aerosol composition," and "insecticidal aerosol device."

B In view of the above A, "an aerosol for the prevention of flying bugs in which a mixture of a liquid formulation and a spraying agent is contained in a pressure-resistant container equipped with a valve system comprising both a valve and an actuator, and an ejection port, said liquid formulation comprising a solvent mainly consisting of saturated hydrocarbon and an active ingredient of the compound" of the Cited Invention corresponds to "an insecticidal aerosol device containing an aerosol composition in an aerosol container, configured to spray said aerosol composition from said aerosol

container by a spraying mechanism."

C "Including the compound as an active ingredient" and "the compound being 3-methoxyiminomethyl-2,2-dimethylcyclopropane carboxylic acid (2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl) methyl" of the Cited Invention and "the above aerosol composition comprises an insecticidal active ingredient of 4-methoxymethyl-2,3,5,6-tetrafluorobenzyl-3-(2-cyano-1-propenyl)-2,2-dimethylcyclopropane carboxylate as a major component" of the present invention have in common that "the above aerosol composition comprises an insecticidal active ingredient as a major component."

D It is obvious that "propane, n-butane, isobutane, dimethyl ether, methylethyl ether, methylal, etc. or a mixture of two or more listed above" of the Cited Invention is volatile. Therefore, "the spraying agent included in the 'mixture' of the Cited Invention being propane, n-butane, isobutane, dimethyl ether, methylethyl ether, methylal, etc. or a mixture of two or more listed above" corresponds to "the above aerosol composition" of the present invention "containing a spraying agent with volatility."

(2) Corresponding features

Consequently, the two inventions have a common point in that they are:
"An insecticidal aerosol device containing an aerosol composition in an aerosol container, configured to spray said aerosol composition from said aerosol container by a spraying mechanism,

wherein the above aerosol composition comprises an insecticidal active ingredient as a major component, and a spraying agent with volatility." But they differ from each other in the following points:

(3) Different features

A Regarding a major component of the insecticidal active ingredient, the present invention is "4-methoxymethyl-2,3,5,6-tetrafluorobenzyl-3-(2-cyano-1-propenyl)-2,2-dimethylcyclopropane carboxylate," whereas the Cited Invention is "3-methoxyiminomethyl-2,2-dimethylcyclopropane carboxylic acid (2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl) methyl" (hereinafter referred to as "the compound of the Cited Invention"). (Different feature A)

B The content of the spraying agent is "designed to be 80 weight percent or more 99 weight percent or less in aerosol composition of said aerosol container" in the present invention, whereas in the Cited Invention "a weight ratio of the mixture consisting of the liquid formulation to the spraying agent is 4/6 to 1/9," so that the content of "the spraying agent" (corresponding to "the spraying agent" of the present invention) in "the mixture" (corresponding to "aerosol composition" of the present invention) is 60 to 90 weight percent. (Different feature B)

C Regarding the average particle size, in the present invention, "an average particle size of said aerosol composition sprayed horizontally from said spraying mechanism is designed to be 15 μm or more to 70 μm or less at a point 50 cm distant from an ejection port of said spraying mechanism in horizontal airline distance," whereas in Cited Invention, "the aerosol is designed to have a volume average particle size of spraying

particle of 20 to 40 μm at 50 cm distant from the ejection port of the aerosol when the mixture consisting of the liquid formulation and the spraying agent is sprayed"; i.e., first, the present invention specifies the ejection direction as "horizontal direction," whereas the Cited Invention does not specify the ejection direction. Subsequently, the particle size in the present invention is "15 μm or more to 70 μm or less," whereas in the Cited Invention it is "20 to 40 μm." (Different feature C)

4 Judgment
(1) Regarding the different feature A
A An insecticidal active ingredient of 4-methoxymethyl-2,3,5,6-tetrafluorobenzyl-3-(2-cyano-1-propenyl)-2,2-dimethylcyclopropane carboxylate (hereinafter, referred to by a general name of "Momfluorothrin") is well known to a person skilled in the art as shown in Japanese Unexamined Patent Application Publication No. 2010-77073, Japanese Unexamined Patent Application Publication No. 2008-273944, etc.

Further, a consideration will be given as to whether or not the well-known Momfluorothrin may be used in place of the cited compound as an active ingredient of the Cited Invention.

B Cited Document 1 discloses that, in order to solve the problem that "when a conventional aerosol product is used, however, it is difficult to directly knock down and bring down, e.g. a house fly, etc. even by direct hit spraying. Therefore, it has been usual practice to spray on bugs that are continuing to fly many times." (paragraph [0002]), it is supposed that "increasing a ratio of a liquid formulation in an aerosol and bringing pests into contact with more particles including an insecticidal component may usually increase instant effect of aerosol for the prevention of pests (because an insecticide content % has an aerosol weight as a denominator, and an insecticide amount is not changed even if a liquid formulation ratio increases, so long as a spraying amount is the same)" (paragraph [0003]), "for example when aerosol with a high liquid ratio is sprayed to a fly on a wall, the wall surface gets wet by the liquid formulation, and the wet part is likely to be distinct. Such phenomenon is not always favored by consumers, but rather a type with a larger proportion of a spraying agent to a liquid formulation in aerosol tends to be favored because it can instantly cause a surface of, e.g., a sprayed wall to be dried and achieve drying sensation." (paragraph [0003]), for the purpose of "providing an aerosol for the prevention of flying bugs with excellent instant effect against flying bugs capable of achieving drying sensation to the extent that causes a sprayed surface to be dried immediately" (paragraph [0004]), "the inventors have investigated an aerosol for the prevention of flying bugs, and found that an aerosol can achieve the aforesaid goal by using a specific insecticidal active ingredient, specifying not only solvent species used, but also setting up a higher ratio of a spraying agent to a liquid formulation in aerosol and adjusting a spraying particle diameter when spraying aerosol to a specific range."

C The relationship of "the use of a specific insecticidal active ingredient" with "providing an aerosol for the prevention of flying bugs with excellent instant effect against flying bugs capable of achieving drying sensation to the extent that causes a sprayed surface to be dried immediately" cannot be seen clearly even by looking into the whole disclosure of Cited Document 1. Further, Cited Document 1 uses the

specific insecticidal active ingredient of the cited compound in all Examples 1 to 4 and Comparative Examples 1 to 4, and fails to disclose any comparative example using an insecticidal active ingredient different from the cited compound, and compare with Examples 1 to 4.

D Further, it is obvious to a person skilled in the art that there shall apply, without relation to the kind of an active insecticidal ingredient, a measure to increase the "proportion of a spraying agent to a liquid formulation in aerosol so that it can instantly cause a surface of a sprayed wall to be dried and achieve drying sensation" of Cited Document 1 and optimize "a spraying particle diameter when spraying aerosol" in view of the instant effect.

E Consequently, a person skilled in the art cannot read from the whole disclosure of Cited Document 1 a technical matter that the cited compound is essential for "providing an aerosol for the prevention of flying bugs with excellent instant effect against flying bugs capable of achieving drying sensation to the extent that causes a sprayed surface to be dried immediately."

F For the above reason, there is not disincentive to replace the cited compound with the other insecticidal active ingredient in the Cited Invention. Further, the cited compound of 3-methoxyiminomethyl-2,2-dimethylcyclopropane carboxylic acid (2,3,5,6-tetrafluoro-4-(methoxymethyl)phenyl) methyl and Momfluorothrin of 4-methoxymethyl-2,3,5,6-tetrafluorobenzyl-3-(2-cyano-1-propenyl)-2,2-dimethylcyclopropane carboxylate have in common that they are both pyrethroid-based insecticides. Taking their closely similar chemical structures into account, it was easily conceivable by a person skilled in the art to replace the cited compound with the well-known Momfluorothrin in the Cited Invention.

(2) Regarding the different feature B
A Cited invention specifies the content of "spraying agent" in the "mixture" as 60 to 90 weight percent because "a larger proportion of a spraying agent to a liquid formulation in aerosol can instantly cause a surface of, e.g., a sprayed wall to be dried and achieve drying sensation." It is obvious that a larger proportion of a spraying agent may increase drying sensation.

B Further, when it comes to the particle diameter, as Cited Document 1 discloses that "when the weight ratio of a liquid formulation to a spraying agent is 1/9 or so and the same valve system is used, the particle diameter tends to be smaller than an aerosol with a weight ratio of the liquid formulation to the spraying agent of 25/75. The use of a lower pressure gas as a spraying agent to be filled may facilitate adjustment of a volume average particle size of spraying particle. The stem pore of the valve is one pore at an interval of about 0.3 to 0.5 mm, and the vapor tap pore of housing is 0 (no pore) to 0.3 mm, preferably no pore. The actuator is preferably equipped with an extension tube that enlarges a particle diameter and has a pore diameter of 1 to 2 mm or more. The volume average particle size of spraying particle may be adjusted by the aforementioned method" (paragraph [0018]), the increase of the content of spraying agent may achieve a desired particle diameter. Thus there is no particular disincentive to increase the

content of spraying agent.

C Consequently, a person skilled in the art could have easily conceived of adjusting the content of spraying agent to a higher ratio in a range of 60 to 90 weight percent, and a further higher ratio beyond 90 weight percent in the Cited Invention to thereby increase drying sensation.

(3) Regarding the different feature C
A Cited invention does not specify the ejection direction; however, it is often the case that aerosol ejects on average in a horizontal direction and at an angle close to the horizontal direction on average when killing flying bugs with aerosol, but it is rare to eject in a vertical direction (right below, right above) and at an angle close to the vertical direction, which is a matter of common technical knowledge. Therefore, it is recognized that a person skilled in the art could ordinarily conceive of ejecting in a horizontal direction close to an actual ejecting angle in measuring an average particle size.

B As considered in the above item (1), it is presumed that it might change an optimal average particle size to increase the instant effect of aerosol when the cited compound of the Cited Invention is replaced with the well-known Momfluorothrin. As a result of optimizing "20 to 40 μm" of the Cited Invention with respect to Momfluorothrin, it would become "15 μm or more to 70 μm or less." This is just an optimization ordinarily conducted by a person skilled in the art.

C Consequently, in the Cited Invention, a person skilled in the art could have easily conceived of ejecting in a horizontal direction to measure an average particle size, and optimizing the average particle size to 15 μm or more to 70 μm or less to increase instant effect of aerosol.

(4) Regarding effect
The effect of the invention could be envisaged by a person skilled in the art from the Cited Invention and the well-known techniques, and not be a particular one.

(5) Appellant's allegation
A Appellant argues in the written appeal, [Reason for appeal], "3." "(3)" that "As aforementioned, the present invention specifies an average particle size of 15 μm or more when spraying in a horizontal direction. This can ensure a prescribed mass for one particle including an active ingredient. Therefore, even if an air flow surrounding a target bug is flowing as if it avoids the target bug, the effect of the flow becomes relatively smaller than an inertial force of a particle including an active ingredient. As a result, the particle including the active ingredient tends to attach to a sample bug, which provides significantly high insecticidal efficacy.

Further, the average particle size was set to 70 μm or less when spraying in a horizontal direction, which makes a particle hard to attach to the circumference of the ejection port and increases the number of scattered particles when spraying from the ejection mechanism, and provides significantly high insecticidal efficacy.
The test results of this insecticidal efficacy are discussed in detail in paragraphs [0048],

and [0054] to [0058] of the original specification of the application."

Indeed, as can be seen from [Table 1] and [Figure 4], there is a relationship between an average particle size and KT50 or KT90. However, it cannot be recognized from the whole disclosure of the specification of the present application that this relationship is attributed to the fact that "the effect of the flow becomes relatively smaller than an inertial force of a particle including an active ingredient" and "a particle becomes hard to attach to the circumference of the ejection port and the number of scattered particles is increased when spraying from the ejection mechanism." Therefore, it is recognized that the specification of the present application only discloses a technical matter to optimize an average particle size from the viewpoint of KT50 or KT90.

B Appellant simultaneously argues in the written appeal, [Reason for appeal], "3." "(3)" that "The content of volatile spraying agent is 80 weight percent or more to 99 weight percent or less. This results in a drastic increase of the content of spraying agent compared to the other components of the composition, and the spraying agent has volatility. Therefore, an aerosol composition may be sprayed from an ejection port so that an average particle size becomes 15 μm or more to 70 μm or less at a point 50 cm distant from the ejection port in horizontal airline distance."

It seems that the spraying agent evaporates in flying 50 cm (to become a smaller particle size?) to become an average particle size of 15 μm or more to 70 μm or less.

However, such matter is not described in the specification of the present application, nor it is recognized as a matter of common technical knowledge of a person skilled in the art. Further, even if such phenomenon is known to a person skilled in the art, it cannot obviously be said that a person skilled in the art would simply design a spraying mechanism so that a particle diameter may become a target value at a point 50 cm distant without relation to the content of spraying agent. It cannot obviously be said that it is a significant effect due to the high content of the spraying agent of 80 to 99 weight parts.

(6) Conclusion

Therefore, the present invention was easily conceivable by a person skilled in the art on the basis of Cited Inventions and well-known technique, and thus appellant should not be granted a patent for the invention under the provision of Article 29(2) of the Patent Act.

No. 3 Closing

For the above reasons, appellant should not be granted a patent for the invention under the provision of Article 29(2) of the Patent Act, and thus the present application should be rejected without making a determination of the other remaining claims.

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

January 9, 2018

Chief administrative judge: MISAKI, Hitoshi
Administrative judge: ITO, Masaya

Administrative judge: TAKAHASHI, Yusuke