Trial decision

Invalidation No. 2015-800167

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The case of trial regarding the invalidation of Japanese Patent No. 5062473, entitled "POWER TOOL" between the parties above has resulted in the following trial decision.

Conclusion

The correction of the Description of Japanese Patent No. 5062473 and scope of claims, regarding Claims 1 and 2 after correction, shall be approved as described in the corrected description and scope of claims attached to the written correction request.

The patent regarding the invention according to Claims 1 and 2 of Japanese Patent No. 5062473 shall be invalidated.

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

Reason

No. 1 History of the procedures

The history of procedures regarding Japanese Patent No. 5062473 (hereinafter referred to as "the Patent") is substantially as follows:

May 28, 2007	Application relating to the Patent
As of November 18, 2011	Notice of reasons for refusal
January 25, 2012	Submission of Written opinion and Written amendment

As of July 10, 2012	Decision to grant a patent
August 17, 2012	Registration (Japanese Patent No. 5062473)
August 26, 2015	Submission of written request for invalidation trial of the case (hereinafter referred to as "Written request for trial")
November 9, 2015	Submission of Written reply for the trial case (hereinafter referred to as "Written reply")
As of January 19, 2016	Notification of matters to be examined
February 26, 2016	(Demandant) Submission of Oral proceedings statement brief (hereinafter referred to as "Demandant's statement brief")
March 14, 2016	(Demandee) Submission of Oral proceedings statement brief (hereinafter referred to as "Demandee's statement brief")
March 28, 2016	Oral proceedings
April 18, 2016	(Demandee) Submission of Written statement (hereinafter referred to as "Demandee's written statement")
April 27, 2016	(Demandant) Submission of Written statement
As of May 30, 2016	Advance notice of trial decision
August 1, 2016	(Demandant) Submission of Witten statement (2) (hereinafter referred to as "Demandant's written statement (2)")
August 1, 2016	Submission of Written correction request
August 1, 2016	(Demandee) Submission of Written statement (hereinafter referred to as "Demandee's written statement (2)")
September 20, 2016	Submission of Written refutation
As of September 29, 2016	Inquiry
November 4, 2016	(Demandee) Submission of Written reply (hereinafter referred to as "Written reply")

No. 2 Propriety of Correction

1. Contents of correction

The correction request as of August 1, 2016 (hereinafter referred to as "the Correction request" requests correction of the Description of the Patent and scope of

claims, regarding Claims 1 and 2 after correction, as described in the corrected description and scope of claims attached to the written correction request. The contents thereof are described as follows with underlines indicating corrected portions.

In this decision, all commas are expressed with [,].

(1) Correction A

The description in the first paragraph of Claim 1 of the scope of claims,

"a housing part with an inlet"

is corrected to the description,

"a housing part including: a motor housing part extended in a longitudinal direction and equipped with an inlet arranged on an outer peripheral surface; a power transmission housing part arranged forward of the motor housing part; and a handle housing part extended downward from the motor housing part."

(2) Correction B

The description in the second paragraph of Claim 1 of the scope of claims,

"a brushless motor housed in the housing part and including a substantially cylindrical stator with a stator coil wound thereon, having an outer peripheral part and an inner peripheral part extending in a rotary shaft direction, and a rotor substantially concentrically arranged inside the stator, and"

is corrected to the description,

"a brushless motor housed in the housing part and including: a rotary shaft extending in a longitudinal direction; a substantially cylindrical stator with a stator coil wound thereon, having a slot, an outer peripheral part, and an inner peripheral part extending in the rotary shaft direction; a rotor substantially concentrically arranged inside the stator and connected to the rotary shaft; and an air gap formed between the stator and the rotor, and".

(3) Correction C

The description in the last paragraph of Claim 1 of the scope of claims,

"the power tool formed by arranging a substrate extending in a direction substantially orthogonal to the rotary shaft, and having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end"

is corrected to the description,

"the power tool formed by arranging a substrate extending in a direction substantially

orthogonal to the rotary shaft, and having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end of the stator and one end of the air gap with the substrate."

(4) Correction D
The description in [0010] of the Description,
"Thus, the purpose of the invention is to provide a power tool having, as a drive source, a brushless motor provided with a dust-proof structure of a motor part for preventing dust from being sucked as well as a cooling structure of the motor part"
is corrected to the description,
"Thus, the purpose of the invention is to provide a power tool having, as a drive source, a brushless motor provided with a dust-proof structure of a motor part for preventing dust from being sucked as well as a cooling structure of the motor part, thereby preventing motor lock phenomenon, as well as a failure of the power tool due to damage to a motor drive transistor or a coil."

(5) Correction E
The description in [0012] of the Description,
"As one of the characteristics of the invention, the power tool including: a housing part with an inlet; a brushless motor housed in the housing part and including a substantially cylindrical stator with a stator coil wound thereon, having an outer peripheral part and an inner peripheral part extending in a rotary shaft direction, and a rotor substantially concentrically arranged inside the stator; a cooling fan housed in the housing part and attached to the rotary shaft; and a tip tool attachment member to be driven by the brushless motor, is formed by arranging a projection which protrudes from the inner peripheral part of the housing part to the outer peripheral part of the stator, to hold the outer peripheral part of the stator, causing a cooling gas for the stator received by the cooling fan through the inlet into the housing part to flow to use, as a flow passage, a space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator, arranging a substrate extending in a direction substantially orthogonal to the rotary shaft and having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end"
is corrected to the description,
"As one of the characteristics of the invention, the power tool including: a housing part

including a motor housing part extended in a longitudinal direction and equipped with an inlet arranged on an outer peripheral surface, a power transmission housing part arranged forward of the motor housing part, and a handle housing part extended downward from the motor housing part; a brushless motor housed in the housing part and including: a rotary shaft extending in a longitudinal direction; a substantially cylindrical stator with a stator coil wound thereon, having a slot, an outer peripheral part, and an inner peripheral part extending in the rotary shaft direction; a rotor substantially concentrically arranged inside the stator and connected to the rotary shaft; and an air gap formed between the stator and the rotor; a cooling fan housed in the housing part and attached to the rotary shaft; and a tip tool attachment member to be driven by the brushless motor, is formed by arranging a projection which protrudes from the inner peripheral part of the housing part to the outer peripheral part of the stator, to hold the outer peripheral part of the stator, causing a cooling gas for the stator received by the cooling fan through the inlet into the housing part to flow to use, as a flow passage, a space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator, arranging a substrate extending in a direction substantially orthogonal to the rotary shaft and having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end of the stator and one end of the air gap with the substrate."

2. Propriety of the purpose of correction, New matter, Enlargement or alteration, and Propriety of a group of claims

(1) Correction A

The correction A includes: adding a motor housing part, a power transmission housing part, and a handle housing part for configuring the housing part in Claim 1; adding the motor housing part which is extended in the longitudinal direction and having an inlet arranged on the outer peripheral surface; adding the power transmission housing part arranged forward of the motor housing part; and adding the handle housing part extended downward from the motor housing part. The purpose of correction relating to the correction A falls under restriction of the scope of claims.

Paragraph [0024] of the Description and FIG. 1 describe that the housing part is formed of the motor housing part, the power transmission housing part, and the handle housing part, that the motor housing part is extended in the longitudinal direction and having an inlet arranged on the outer peripheral surface, that the power transmission housing part is arranged forward of the motor housing part, and that the handle housing

part is extended downward from the motor housing part. The correction relating to the correction A falls within the scope of the matters described in the Description and Drawings.

It is obvious that the correction relating to the correction A does not substantially enlarge or alter the scope of claims.

(2) Correction B

The correction B includes: adding a rotary shaft extended longitudinally and an air gap formed between the stator and the rotor, to configure the brushless motor in Claim 1; adding a slot included in the stator of the brushless motor; and adding connection between the rotor of the brushless motor and the rotary shaft. The purpose of the correction relating to the correction B falls under restriction of the scope of claims.

FIG. 1 describes that the brushless motor includes the rotary shaft extended longitudinally. FIG. 1 and FIG. 3 describe that the brushless motor includes the air gap formed between the stator and the rotor. The paragraph [0027] and FIG. 3 describe that the stator of the brushless motor includes the slot. FIG. 1 describes that the rotor of the brushless motor is connected to the rotary shaft. The correction relating to the correction B falls within the scope of the matters described in the Description and Drawings.

It is obvious that the correction relating to the correction B does not substantially enlarge or alter the scope of claims.

(3) Correction C

The correction C adds covering one end of the stator and one end of the air gap with a substrate in Claim 1. The correction relating to the correction C falls under restriction of the scope of claims.

The paragraph [0029] describes, "a circular circuit substrate (22) of an inverter circuit covers the whole of one end 12d of the stator 12, and having a hole formed in the central part thereof to allow the rotary shaft 11 and the sleeve 24 to penetrate." In light of a relative position between the hole and the air gap in FIG. 1, the correction relating to the correction C for covering one end of the stator and one end of the air gap with a substrate falls within the scope of the matters described in the Description and Drawings.

It is obvious that the correction relating to the correction C does not substantially enlarge or alter the scope of claims.

(4) Correction D

The correction D adds the description of preventing motor lock phenomenon to prevent a failure of the power tool due to damage to a motor drive transistor or a coil, to paragraph [0010], to clarify the technical problem of the invention described in the scope of claims of the Patent. The purpose of the correction relating to the correction D falls under the clarification of an ambiguous description.

Paragraph [0008] describes a prior art, as a technical problem, that "In the power tool to be used in a work environment where dusts, such as wood powder or metal powder, are contained, the air gap between the stator of the motor and the rotor is clogged with the metal powder or wood powder, thereby causing motor lock phenomenon. As a result, a failure of the power tool is caused by fire damage of coil or a drive transistor of the motor due to an excessive current flowing into coil. Dust proofing is required." The correction relating to the correction D falls within the scope of the matters described in the Description and Drawings.

It is obvious that the correction relating to the correction D does not substantially enlarge or alter the scope of claims.

Additionally, the correction D includes the description, "damage to a motor drive transistor or a coil," while considering the description, "fire damage to a motor drive transistor or a coil" in [0008] or the statement of the demandee described on p. 7 l. 10-16 in the written reply, it can be recognized that the "damage" in the correction D is a misdescription of "fire damage," and the above decision is based on the misdescription.

(5) Correction E

The correction E is to conform the description in the detailed description of the invention to the corrections relating to the corrections 1-3 regarding Claim 1. The purpose of the correction relating to the correction E falls under the clarification of an ambiguous description.

As described in the above (1) to (3), the corrections relating to the corrections 1-3 fall within the scope of the matters described in the Description or Drawings. The correction relating to the correction E also falls within the scope of the matters described in the Description and Drawings.

It is obvious that the correction relating to the correction E does not substantially enlarge or alter the scope of claims.

(6) Group of claims

Since Claim 2 cites the description of Claim 1 including the corrections 1-3,

Claims 1 and 2 after correction relating to the corrections 1-3 constitute a group of claims.

3. Allegation of the demandant in Written refutation

The demandant alleges, in the Written refutation p. 2 the 10th line from the bottom to p. 7 l. 6, on the assumption that the Correction C is recognized to indicate "the substrate formed to cover only an area of one end of the stator and one end of the air gap," that the substrate is not described in the Description or Drawings, and that the correction relating to the Correction request does not fall under the provisions of Article 126-6 of the Patent Act which is applied mutatis mutandis pursuant to the provisions of Article 134-2(9) of the Patent Act, and it is not a legal correction.

However, the Correction C, as in the above 1. (3), describes that, "to cover the one end of the stator and one end of the air gap," while it does not describe that "to cover only," so that there is no room for interpretation in the meaning alleged by the demandant.

Thus, the demandant's allegation includes an error in the assumption, and cannot be accepted.

4. Closing

As described above, the correction relating to the Correction request falls under the provisions of Article 134-2 (1) (i) and (3), complies with the provision of Article 134-3, and complies with the provisions of Article 126-5 and 6 of the Patent Act which is applied mutatis mutandis pursuant to the provisions of Article 134-9 of the Patent Act. Thus, the correction shall be approved as a legal correction.

No. 3. The patent inventions 1 and 2

The invention described in the scope of claims of the Patent (hereinafter referred to as "the Patent invention," and the inventions relating to Claim 1 and Claim 2 are referred to as "Patent invention 1" and "Patent invention 2," respectively, and the inventions before correction are referred to as "the Patent invention before correction," "Patent invention 1 before correction," and "Patent invention 2 before correction," respectively) is specified by the matters described in Claims 1 and 2 of the scope of claims, in light of the descriptions in the corrected description (hereinafter referred to as "Patent description," and the description before correction is referred to as "Patent description before correction"), the corrected scope of claims (hereinafter referred to as "the scope of claims," and the scope of claims before correction is referred to as "the

scope of claims before correction"), and Drawings (hereinafter referred to as "Patent drawings"), while the descriptions of the Patent inventions 1 and 2 are as follows.

1. Patent invention 1

"[Claim 1]

A power tool comprising:

a housing part including a motor housing part extended in a longitudinal direction and equipped with an inlet arranged on an outer peripheral surface, a power transmission housing part arranged forward of the motor housing part, and a handle housing part extended downward from the motor housing part;

a brushless motor housed in the housing part and including a rotary shaft extending in a longitudinal direction, a substantially cylindrical stator with a stator coil wound thereon, having a slot, an outer peripheral part, and an inner peripheral part extending in the rotary shaft direction, a rotor substantially concentrically arranged inside the stator and connected to the rotary shaft; and an air gap formed between the stator and the rotor;

a cooling fan housed in the housing part and attached to the rotary shaft;

and a tip tool attachment member to be driven by the brushless motor,

is formed by arranging a projection which protrudes from the inner peripheral part of the housing part to the outer peripheral part of the stator, to hold the outer peripheral part of the stator,

causing a cooling gas for the stator received by the cooling fan through the inlet into the housing part to flow to use, as a flow passage, a space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator,

and arranging a substrate extending in a direction substantially orthogonal to the rotary shaft and having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end of the stator and one end of the air gap with the substrate."

2. Patent invention 2

"[Claim 2]

The power tool described in Claim 1 is configured to include the housing part having a plurality of ribs protruding from the inner peripheral part thereof toward the outer peripheral part of the stator and extending in the rotary shaft direction of the stator."

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

1. Reasons for invalidation alleged by the demandant

The demandant is to request the body, in the Written request for trial, to approve that the patent according to the Patent inventions 1 and 2 of the patent shall be invalidated, and alleges the following reasons for invalidation 1 to 4.

(1) Reasons for invalidation 1 (requirements for support)

The Patent inventions 1 and 2 are not described in the detailed description of the invention. The description in the scope of claims relating to the Patent inventions 1 and 2 does not fall under the provisions of Article 36-6 (1) of the Patent Act.

The patent according to the Patent inventions 1 and 2 is for an application that does not comply with the requirements stipulated in Article 36-6 of the Patent Act. The patent falls under Article 123-1 (4) of the Patent Act and should be invalidated.

(2) Reason for invalidation 2 (requirements for new matter)

The patent according to the Patent inventions 1 and 2 is for a corrected patent application that does not comply with the requirements stipulated in Article 17-2 (3) of the Patent Act. The patent falls under Article 123-1(1) of the Patent Act and should be invalidated.

(3) Reason for invalidation 3 (requirements for novelty)

The Patent inventions 1 and 2 are identical to the "rechargeable angle screw driver FL300FDZ" sold publicly before the filing date, and fall under Article 29-1 (2) of the Patent Act.

The patent according to the Patent inventions 1 and 2 violates the provisions of Article 29-1 of the Patent Act. The patent falls under Article 123-1 (2) of the Patent Act, and should be invalidated.

(4) Reason for invalidation 4 (requirements for inventive step)

The Patent inventions 1 and 2 could be easily made by a person skilled in the art, on the basis of the rechargeable angle screw driver FL300FDZ sold publicly before the filing date and the invention described in Evidence A No. 13. The patent relating to the Patent inventions 1 and 2 violates the provisions of Article 29-2 of the Patent Act. The patent falls under Article 123-1 (2) of the Patent Act, and should be invalidated.

2. Reply of the demandee to the reasons for invalidation

The demandee is to request the body, in the written reply, to approve that the demand for trial regarding the invalidation is groundless.

3. Means of proof

(1) Means of proof submitted by the demandant

The demandant submitted, as means of proof, Evidences A No. 1 to No. 13, No. 15, and No. 16 in the written request for trial, and Evidence A No. 14 in the Demandant's statement brief. Exhibits A No. 1 and No. 2 at the time of submission of the Written request for trial were corrected to Evidences A No. 15 and No. 16 in the oral proceedings on March 28, 2016 (No. 2 in the demandant column in 1st oral proceedings record). All of Evidences A No. 1 to No. 14 are "copies," and commentaries thereon are omitted.

Evidence A No. 1: Japanese Patent No. 5062473

Evidence A No. 2: Japanese Unexamined Patent Application Publication No. 2008-295256

Evidence A No. 3: Written amendment as of January 25, 2012 of the application relating to the Patent

Evidence A No. 4: Written opinion as of January 25, 2012 of the application relating to the Patent

Evidence A No. 5: Publication of advisory opinion on the case of advisory opinion (Advisory opinion No. 2013-600041) relating to the Patent (hereinafter referred to as "Another advisory opinion")

Evidence A No. 6: Rechargeable angle screw driver
sales catalog of FL300FDZ/FL400FDZ

Evidence A No. 7: Shipping slip addressed to Mitokogyo Corporation and Receipt of Mitokogyo Corporation

Evidence A No. 8: Shipping slip addressed to Minezawakoki Co., Ltd. and Receipt of Minezawakoki Co., Ltd.

Evidence A No. 9: "Record of production" in Makita Corporation

Evidence A No. 10: "Record of production" in Makita Corporation

Evidence A No. 11: Manufacturing drawing of rechargeable angle screw driver FL300FDZ

Evidence A No. 12: Report of Koji FUKUYA, an employee of Makita Corporation

Evidence A No. 13: Japanese Unexamined Patent Application Publication No. 2005-102370
Evidence A No. 14: Written request for advisory opinion of Another advisory opinion
Evidence A No. 15: Pictures of rechargeable angle screw driver BFLD300FZ owned by Makita Corporation (hereinafter referred to as "Exhibit A No. 1")
Evidence A No. 16 Pictures of rechargeable angle screw driver BFLD400DZ owned by Makita Corporation (hereinafter referred to as "Exhibit A No. 2")

(2) Means of proof submitted by the demandee

The demandee submitted, as means of proof, Evidences B No. 1 to No. 7 in the written request for trial. All of Evidences B No. 1 to No. 7 are "copies," and commentaries thereon are omitted.

Evidence B No. 1: Japanese Unexamined Patent Application Publication No. 2004-274800
Evidence B No. 2: Japanese Unexamined Patent Application Publication No. 2005-102370
Evidence B No. 3 : Japanese Unexamined Patent Application Publication No. S63-11272
Evidence B No. 4: Japanese Unexamined Patent Application Publication No. H8-322169
Evidence B No. 5: Written reply to request for advisory opinion of Another advisory opinion
Evidence B No. 6: Examination guidelines of "Requirements for description of Description and the scope of claims" revised on September 28, 2011
Evidence B No. 7: Examination guidelines of "Amendment of Description, the scope of claims, or Drawings (new matters)" revised on June 1, 2010

No. 5 Allegations of the parties

The parties approximately argued, on each of the reasons for invalidation, as follows. In specifying the location of a description by the number of line, a blank line is not included. Evidence A No. 1 will be abbreviated as "A-1," for example.

1. Regarding Reason for invalidation 1
[Demandant]
(1) Prior art described in Patent description before correction, Problems, and Working

effect

In light of the descriptions in [0004] and [0005], [0008] to [0010], and [0020] of Patent description before correction, the detailed description of the invention in the Patent description before correction describes that conventional means of cooling a brushless motor, which supplies cooling air between stator coils or includes a stator part of a motor arranged on a flow passage of a cooling gas, may cause motor lock phenomenon due to metal powder or wood powder in an air gap formed between a stator and a rotor of the motor, and that the Patent invention before correction is configured to allow the stator of the brushless motor to function as a part of a dust-proof structure of the motor part, while using a plurality of spaces formed between a plurality of stator holding members for holding the stator as flow passages of the cooling gas for the stator, thereby achieving motor dust-proof function and increasing the amount of cooling gas for the stator.

Thus, it can be recognized that the detailed description of the invention before correction describes a technology of cooling the motor by supplying the cooling gas in an outer periphery of the stator, instead of supplying the cooling air in the motor, and preventing the air gap between the stator and the rotor of the motor from being clogged with metal powder or wood powder due to absence of the cooling air flowing in the motor. (Written request for trial p. 5 6th line from the bottom to p. 8 l. 4)

(2) Flow of cooling air in the embodiment

In light of the descriptions in [0043] and [0044] of the Patent description before correction, the cooling air introduced into the housing through the inlet in the embodiment flows in a space between an outer periphery of the brushless motor and the housing, and is quickly discharged to the outside of the housing. (Written request for trial p.8 l. 5-p.9 l. 7)

(3) Invention described in the detailed description of the invention before correction

As described in the above (2), the embodiment described in the detailed description of the invention and drawings of Patent description before correction shows that the cooling air sucked through the inlet is quickly introduced to a space part formed between the inner periphery of the motor housing part and the outer peripheral part of the stator and that the cooling air passing through the space part is discharged through an outlet quickly, to pass through only between the inner peripheral part of the housing part and the outer peripheral part of the stator. The embodiment corresponds to the objects and effects of the Patent invention before correction to prevent an air gap

between the stator and the rotor of the motor from being clogged with metal powder or wood powder due to absence of a cooling gas flowing into the motor by supplying the cooling gas in an outer periphery of the stator. (Written request for trial p. 9 l.8-l. 17)

(4) Regarding the fact that the Patent invention 1 before correction is not an invention described in the detailed description of the invention before correction

As described in the above (3), the detailed description of the invention of Patent description before correction describes "the invention that cooling air does not pass through the inside of a brushless motor."

The Patent invention 1 before correction specifies that "causing a cooling gas for the stator received by the cooling fan through the inlet into the housing part to flow to use, as a flow passage, a space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator," while not including any limitations on a flow path of the cooling gas in other parts in the housing part. The Patent invention 1 before correction is an invention that does not exclude a configuration, which is not described in the detailed description of the invention before correction, where the cooling gas passing through the space between the housing part and the outer peripheral part of the stator passes through the stator and the rotor of the brushless motor.

The Patent invention before correction is assumed to correspond to Violation type (4) of Examination guidelines, or "the case of claiming for a patent beyond the scope described in the detailed description of the invention, since means for solving the problem of the invention, described in the detailed description of the invention, is not reflected in Claims." (Written request for trial p.9 7th line from the bottom to p. 11 l. 6)

(5) Regarding the fact that the Patent invention before correction is recognized not to exclude a configuration where the cooling gas passes through the inside of the brushless motor

In Another advisory opinion, as for recognition of Article A, it is recognized only that the gas introduced through the inlet passes through the space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator. A path of the gas flowing to the outlet is not recognized. The Article A shows that the air passing between the inner peripheral part of the housing part and the outer peripheral part of the stator is inverted to be discharged through the inside of the brushless motor. There is no need for consideration of the above configuration to recognize a technical scope of the Patent invention 1 before correction, so that the

Article A is not recognized.

It is obvious that the Patent invention 1 before correction is recognized not to exclude a configuration where the cooling gas passes through the inside of the brushless motor. (Written request for trial p.11 l. 7-p.12 6th line from the bottom)

(6) Summary

As described above, the Patent invention 1 before correction is not an invention described in the detailed description of the invention before correction. The description thereof does not fall under the provisions of Article 36-6(1) of the Patent Act.

The Patent invention 2 before correction, which is a dependent claim, is not described in the detailed description of the invention before correction. The description thereof does not fall under the provisions of Article 36-6(1) of the Patent Act.

The patent according to the Patent inventions 1 and 2 before correction is for an application that does not comply with the requirements stipulated in Article 36-6(1) of the Patent Act. (Written request for trial p.12 5th line from the bottom to p.13 l.4)

(7) Regarding the interpretation of "covering one end of the stator" in the Patent invention 1 before correction

The description, "covering one end of the stator" of the Patent invention 1 before correction can be interpreted as the following two configurations.

Configuration A. covering the whole of an end surface of a stator as an entity (outer shell and teeth)

Configuration B. covering an opening of the space surrounded by the stator, in addition to the end surface of the stator as an entity

In consideration of the allegation of a demandant of advisory opinion (the demandee of this case) in Another advisory opinion (A-14), and recognition of the reason for advisory opinion (A-14), the configuration B cannot be accepted. There is no alternative but to interpret the description, "covering one end of the stator" of the Patent invention 1 before correction, as the configuration A. (Demandant's statement brief p. 2 4th line from the bottom to p.9 5th line from the bottom)

(8) Refutation against Written reply

A. Regarding "the substrate covers one end of the stator"

As described in the above (7), the substrate of the Patent invention 1 before correction indicates covering only the area of the above configuration A. However, the demandee makes different allegations, while not clarifying the scope of the

configuration of the substrate specified by "the substrate covers one end of the stator." (Demandant's statement brief p. 17 l. 5-l. 16)

B. For the following [Demandee] (1) and (2)

The process of the examination on the application in connection with the Patent is approved, while the reason for invalidation 1 is to be determined on the basis of the description in the scope of claims at the time of patent application and the description in the detailed description of the invention, and the process of the examination does not affect determination on the reason for invalidation 1.

It is approved that the working effect of the Patent invention 1 before correction is described in Written opinion (A-4) as of January 25, 2012, while the working effect is not described in the Patent description before correction. The working effect is only a working effect created in the process of application by the demandee.
(Demandant's statement brief p. 17 l. 17-p. 18 l. 19)

C. For the following [Demandee] (3) B.

The paragraph [0029] of the Patent description before correction does not include the descriptions, "blocking the stator coil 12 with only a circular circuit substrate (22)" or "preventing dust from directly hitting against the coil." Even if FIG. 1 is taken into consideration, in light of the description in [0029], it cannot be recognized to prevent the dust included in the cooling air from directly hitting against the coil only by a function of the circular circuit substrate.

The object of the invention described in [0010] is to "provide a power tool... configured to prevent dust from being sucked." The Patent invention 1 before correction specifies a flow passage of the cooling gas as "a space formed between the inner peripheral part of the housing and the outer peripheral part of the stator, " while having no limitations on a flow passage of the cooling gas in other parts in the housing part. The Patent invention 1 before correction includes a configuration where all cooling gases introduced through the inlet directly enter between the stator and the rotor, to be guided between the inner periphery of the housing and the outer periphery of the stator. In this configuration, all the cooling air passes through the inside of the rotor, and cannot prevent entry of the dust. The Patent invention 1 before correction is considered not to include means for solving the problem, "preventing the dust from being sucked." (Demandant's statement brief p. 18 l. 20-p. 21 l. 4)

(9) Allegation in Demandant's written statement (2)

The demandee is anticipated to allege that the cooling air flowing perpendicularly on a surface of the substrate flows into a slot around the inner peripheral side of the substrate, while the detailed description of the invention does not describe a configuration where the cooling gas enters the motor.

The substrate 22 shown in FIG. 1 of the Patent drawings is configured to form a gap between a hole formed at the center and a sleeve 24. Although a slight amount of cooling gas is likely to enter the motor, the amount of cooling gas entering the motor is very small, and the amount of dust entering the motor is also very small.

There is a large gap between the hole of the substrate and the rotary shaft in the Patent invention 1 before correction. On the basis of FIG. 1 of the Patent drawings, a flow of the cooling air of the Patent invention 1 before correction cannot be anticipated. (Demandant's written statement (2) p.4 l. 9-p. 6 l. 2)

(10) Allegation in Written refutation

A. Regarding Patent inventions 1 and 2 before correction, and Patent inventions 1 and 2

Each of the Patent inventions 1 and 2 before correction and the Patent inventions 1 and 2 indicates an invention where the cooling gas flows from the inner periphery of the substrate into the motor, and is not an invention described in the detailed description of the invention. (Written refutation p. 7 l. 7-p.18 l. 9)

B. Refutation against Demandee's written statement

As described in the following [Demandee] (9), the demandee alleges that both right and left configurations in a figure of Appendix 3 of the 1st oral proceedings record indicate a configuration of "covering one end of the stator."

However, even if the concept of the substrate "covering one end of the stator" includes both right and left configurations in the figure of Appendix 3 of the 1st proceedings record, the detailed description of the invention of the Patent does not directly describe the above concept of the substrate. (Written refutation p. 18 l. 10-p. 21 4th line from the bottom)

[Demandee]

(1) Process of examination on the application in connection with the Patent

Paragraph [0010] of the Description originally attached to the application in connection with the Patent (hereinafter referred to as "Original description") describes problems of the invention, while not describing matters on "hermetic structure" and "dust-proof cover" described in the detailed description of the invention.

In the reasons for refusal in the examination on the application in connection with the Patent, an examiner stated to refer to FIGs 1, 2, 4, and 5 in Cited document 1 (B-3). FIGs 1 and 2 describe a motor configured to allow the cooling gas to flow only at the outside of the stator, while FIGs 4 and 5 describe a motor configured to allow the cooling gas to flow on the outside and inside of the stator. The examiner considers that the invention relating to Claim 1 of the scope of claims originally attached to the application (hereinafter referred to as "Claim 1 at the application") is not limited to an invention having the "hermetic structure" or the "cover member."

The demandee submitted the Written amendment in consideration of the reason for invalidation, and a decision to grant a patent was made on the application in connection with the Patent. The examiner acknowledged that the invention relating to Claim 1 at the application is not limited to an invention having the "hermetic structure" or "cover member," that the correction of Claim 1 is legal, and that the invention relating to Claim 1 after correction could not be easily conceived from the Cited document 1, and decided to grant a patent.
(Written reply p. 4 l. 14-p. 10 5th line from the bottom)

(2) Working effect of Patent invention 1 before correction

As described in the Written opinion (A-4) as of January 25, 2012 of the application in connection with the Patent, the Patent invention 1 before correction exhibits the following working effects.
"The brushless motor... has a control circuit which is more complicated than a usual motor, and includes various substrates, in addition to a substrate with a circuit formed thereon.

The Invention is configured by arranging one of the substrates in the brushless motor, in a direction substantially perpendicular to the rotary shaft of the brushless motor, close to one end of the stator opposite the side where a cooling fan is arranged, across the brushless motor, thereby preventing the dust entering through an inlet from directly hitting against the stator coil.

Previously, coating of the coil has been damaged by the dust hitting thereon. The Invention can block the stator coil with the substrate, thereby preventing the dust from directly hitting against the stator coil.

In cooling the substrate, an airflow for cooling the stator can be used for cooling the substrate.

If the invention suppresses the disadvantage of a cooling structure of the stator coil (for example, the dust directly hitting against the stator coil) with the substrate, and

has a function required by the substrate (cooling, for example), a complementary relation can be established with the cooling gas for the stator coil." (Written opinion p. 11 6th line from the bottom to p. 12 l. 11)

(3) Refutation against Reason for invalidation 1

A. Examination guidelines of requirements for description of Article 36-6(1)

Violation type (4) of Examination guidelines is the case of claiming for a patent beyond the scope described in the detailed description of the invention, since means for solving the problem of the invention, described in the detailed description of the invention, is not reflected in Claims. The type (4) is applied in the case where the invention relating to Claims is determined to exceed the scope described so that a person skilled in the art may understand that the problem of the invention can be solved in the detailed description of the invention. (Written opinion p. 12 9th line from the bottom to p. 14 l. 2)

B. Satisfaction of requirements of Article 36-6(1)

In the Patent invention 1 before correction, the configuration of arranging a substrate and a cooling fan at both ends of the stator is described in FIG. 1 of the Patent drawings and [0042] and [0043] of the Patent description before correction. The configuration of allowing a cooling gas for the stator to flow in the outer peripheral part of the stator is described in FIG. 1 and [0045]. The configuration of covering one end of the stator with the substrate is described in FIG. 1, [0028], and [0029].

Thus, the matters specifying the invention of the Patent invention 1 before correction are described in the detailed description of the invention before correction.

According to the matters specifying the invention, a person skilled in the art can recognize, from [0028] and [0029], that the stator coil 12a can be blocked with the fixed substrate 22, to prevent dust included in the cooling air from directly hitting against the coil, while allowing an air flow for cooling the stator 12 to be used for cooling the circuit substrate 22. As described in [0010], the purpose of the invention, "to provide a power tool having, as a drive source, a brushless motor provided with a dust-proof structure of a motor part for preventing dust from being sucked as well as a cooling structure of the motor part with excellent cooling effect," can be achieved.

Thus, it is not determined to exceed the scope described so that a person skilled in the art may understand that the problem of the invention can be solved. The Patent invention before correction is described as an invention in the detailed description of the invention before correction, and satisfies the requirements of Article 36-6(1). (Written

opinion p.14 l. 3- p. 15 l. 5)

C. Allegation of the demandant in Written request for trial

In the above [Demandant] (4), the demandant alleges that "an invention does not exclude a configuration where the cooling gas passing through the space between the housing part and the outer peripheral part of the stator passes through the stator and the rotor of the brushless motor," but this allegation is unreasonable. The power tool described in the Patent description before correction and Patent drawings is an embodiment of the invention, and the examination guidelines do not require the description of all embodiments included in Claims. The Patent invention 1 before correction includes means for solving the problem of the invention, described in the detailed description of the invention before correction, and is not considered to claim for a patent beyond the scope described in the detailed description of the invention before correction. (Written opinion p. 15 l. 6-l. 16)

D. Regarding Another advisory opinion

The demandant alleges, on the Another advisory opinion, that "the Article A shows that the air passing between the inner peripheral part of the housing part and the outer peripheral part of the stator is inverted to be discharged through the inside of the brushless motor. There is no need for consideration of the above configuration to recognize a technical scope of the Patent invention 1 before correction, so that the Article A is not recognized" ([Demandant] (5)). The power tool described in the Patent drawings and the detailed description of the invention before correction is one embodiment formed by embodying a technology of the Patent invention 1 before correction. The Article A satisfies all constituent components of the Patent invention 1 before correction, and it is obvious that the Article A belongs to the technical scope of the Patent invention 1 before correction. In light of a conclusion of the Another advisory opinion, "the configuration where the air is inverted to be discharged through the inside of the brushless motor" also belongs to the technical scope of the Patent invention 1 before correction. The technical scope of the patent invention is to be determined on the basis of the description of the scope of claims of the Description attached to the application (Article 70-1 of the Patent Act), and recognition for only the embodiment described in the detailed description of the invention is not accepted.

According to the conclusion of the Another advisory opinion, it is obvious that the Patent inventions 1 and 2 before correction satisfy the requirements stipulated in Article 36-6(1) of the Patent Act. (Written opinion p. 15 l. 17-p. 16 3rd line from the

bottom)

(4) Regarding the interpretation of "covering one end of the stator" of the Patent invention 1 before correction

The term "cover" is usually used as a meaning, "to put something over the whole of something so as not to be exposed" (Kojien). The substrate in the Patent invention 1 before correction covers one end of the stator so as to prevent dusts from colliding with the stator.

As described in [0027] of the Patent description before correction, a slot 12f constitutes the stator. In consideration of the description of [0029] and FIG. 1, it is reasonable that the "one end of the stator" includes the space in the stator.
(Written opinion p. 29 l. 4-p. 30 8th line from the bottom)

(5) Regarding the configuration of "the air inverted to pass through the inside of the brushless motor"

It is recognized that the "configuration of the air inverted to be discharged through the inside of the brushless motor" is not described in the Patent description before correction. However, the Original description describes that the problem, "to provide a power tool with cooling structure and dust-proof structure" can be solved with the Patent invention 1 before correction, so as to be understood by a person skilled in the art, and there is no violation of Article 36-6(1) of the Patent Act. (Demandee's statement brief p. 2 l. 2-l. 11)

(6) Regarding the Patent invention 1 before correction

The Patent invention 1 before correction is not an invention specifying a flow of cooling air which has flowed along the outer peripheral part of the stator.

In the Patent invention 1 before correction, the substrate covers one end of the stator, and the stator coil is covered with the substrate. The substrate is used also as a dust-proof member, and has a working effect of preventing damage to a coil.

The way to discharge the cooling air flowing along the outer peripheral part of the stator is only appropriate selection in embodying the invention. (Demandee's statement brief p. 2 l. 12 to the last line)

(7) Regarding Another advisory opinion

If the Department of Appeal of JPO understands that the problem of the Patent invention before correction is limited to provide a power tool configured to prevent

dusts or air from entering the motor, it can be considered that the power tool configured so that the air enters the motor, such as Article A, has been recognized not to belong to the technical scope of the Patent invention before correction. In fact, it is recognized that the Article A belongs to the technical scope of the Patent invention 1 before correction. It can be assumed that the problem of the Patent invention before correction has been recognized not to be limited to provide a power tool which reliably prevents dusts and air from entering the motor. (Demandee's statement brief p. 3 l. 1-p. 4 l. 4)

(8) Regarding Demandant's statement brief

A. Regarding the stator of the Patent invention 1 before correction

It is a technical common sense of a person skilled in the art that a stator is formed of a stator core and a stator coil. A space part between the stator coils is inevitably generated during assembling a stator, and constitutes the stator. (Demandee's statement brief p. 4 l. 9-p. 5 l. 15)

B. Regarding the description, "covering one end of the stator" of the Patent invention 1 before correction

[Demandant] In (7), the demandant alleges that the description, "covering one end of the stator" can be interpreted only as one of the configuration A and the configuration B. However, to replace the stator core with the stator is a sophistry that ignores a technical common sense of the motor. The interpretation of the configuration A is groundless. Since the substrate of the Patent invention 1 before correction includes a hole through which a rotary shaft penetrates, the interpretation of the configuration B is also groundless.

The "stator" in the Patent invention 1 before correction is a "substantially cylindrical stator with a stator coil wound thereon, having an outer peripheral part and an inner peripheral part extending in a rotary shaft direction." The description, "covering one end of the stator" in the Patent invention 1 before correction can be interpreted as "putting over the whole of an area between the outer peripheral part and the inner peripheral part (including the stator coil and the space part) in the end of the substantially cylindrical stator, so as not to be exposed."

Therefore, the interpretation of "covering one end" of the demandant is unreasonable. (Demandee's statement brief p. 5 l. 16-p. 6 6th line from the bottom)

C. Regarding working effect of the Patent invention 1 before correction

The demandant alleges, in [Demandant] (8) B., that the working effect described

in the Written opinion (A-4) as of January 25, 2012 is not described in the Patent description before correction. The working effect is a self-evident working effect of the Patent invention 1 before correction. (Demandee's statement brief p. 9 11th line from the bottom to p. 10 l. 1)

D. Regarding Reason for invalidation 1

The patent invention 1 before correction is, as described in [Demandee] (3) B., described in the detailed description of the invention.

The demandant alleges, in [Demandant] (8) C., according to paragraph [0029], that a function of preventing dusts included in the cooling air from directly hitting against the coil, as a function of only a circular circuit substrate, is not recognized. However, the circular circuit substrate prevents the cooling air from entering the rotor. It is obvious that the circular circuit substrate prevents dusts from directly hitting against the coil. (Demandee's statement brief p. 10 l. 2 to the last line)

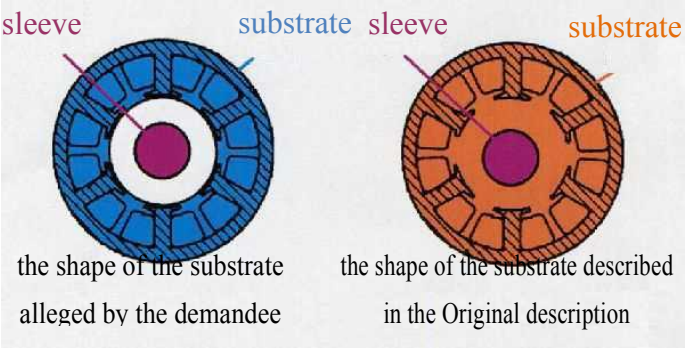
(9) Regarding the description, "covering one end of the stator" of the Patent invention 1 before correction

The demandee sees that the description, "covering one end of the stator" in the Patent invention 1 before correction means, "putting over the whole of an area between the outer peripheral part and the inner peripheral part (including the stator coil and the space part) in the end of the substantially cylindrical stator, so as not to be exposed."

The configuration shown on the right of the figure in Appendix 3 of the 1st oral proceedings record is one "covering one end of the stator," while the hole of the substrate is in contact with the sleeve to prevent free rotation of the sleeve and the rotary shaft, and does not satisfy the constituent components of the Patent invention 1 before correction having a hole through which the "rotary shaft" penetrates.

The configuration shown on the left of the figure in Appendix 3 of 1st oral proceedings record is also one "covering one end of the stator," while a gap is formed between the hole of the substrate and the sleeve, to allow free rotation of the sleeve and the rotary shaft, and satisfies the constituent components of the Patent invention 1 before correction having a hole through which the "rotary shaft" penetrates. If other constituent components are satisfied, it is included in the technical scope of the Patent invention 1 before correction.

[Figure in Appendix 3 of 1st oral proceeding record]



(Demandee's written statement p. 5 l. 14-p. 6 l. 16)

(10) Regarding relationship between the Patent invention 1 before correction and the problem

The problem described in [0008] of the Patent description before correction is that the gap formed between the inner peripheral part of the stator and the outer peripheral part of the rotor is clogged with powder dust. Relatively large particles of powder dust entering and staying in the slot of the motor are held by the air gap at the restart of the motor.

According to the Patent invention 1 before correction, since the substrate covers one end of the stator opposite the side where a cooling fan is arranged, the cooling gas introduced by the cooling fan into the housing part flows into the motor around the substrate, while the large particles of powder dust collide with the substrate or flow in a wrong direction due to detour, resulting in difficulty flowing toward the motor smoothly. The large particles of powder dust cannot flow into the slot especially, due to the substrate covering an area between the outer peripheral part and the inner peripheral part in the stator end including the slot.

Therefore, the Patent invention 1 before correction can solve the problem that the air gap is clogged with powder dust. (Demandee's written statement p. 6 l. 17-p. 8 l. 12)

(11) Allegation in Demandee's written statement (2)

A. Regarding the problem of the Patent invention

In view of the description in [0008] of the Patent description, it can be said that the Patent invention aims to solve the problems, "dust proofing," "preventing lock phenomenon," and "preventing a failure due to fire damage." (Demandee's written statement (2) p. 2 l. 2- p. 3 l. 11)

B. Regarding the Patent invention 1 and "preventing lock phenomenon"

If large particles of powder dust enter the slot, the particles enter the air gap due to rotation of the rotor at the restart of the motor, which is likely to cause lock phenomenon. However, the Patent invention 1 can prevent the large particles of powder dust from entering the slot, thereby solving the problem, "preventing lock phenomenon" of the motor.

In the power tool relating to the Patent invention 1, when there is a gap on the side of the inner periphery of the substrate, part of the cooling gas entering into the housing through the inlet on the outer peripheral surface flows "around the substrate," and large particles of powder dust move through the gap on the side of the inner periphery of the substrate due to inertial force or gravitational force, thereby preventing the large particles of powder dust from entering the air gap, resulting in prevention of lock phenomenon. (Demandee's written statement (2) p. 3 l. 13-p. 5-l. 6)

C. Regarding the Patent invention 1 and "preventing a failure due to fire damage"

The Patent invention 1 solves the problem, "preventing lock phenomenon," and it is natural to prevent "a failure due to fire damage" to be caused by "lock phenomenon." (Demandee's written statement (2) p. 5 l. 13-p.5 l. 7)

D. Regarding the Patent invention 1 and "dust proofing"

The Patent invention "prevents lock phenomenon" due to powder dust, and "prevents a failure due to fire damage" to be caused by the powder dust. It is obvious that the Patent invention has a "dust proofing" function.

It can be recognized that the Patent invention 1 can solve the problem, "dust proofing," and does not violate the provisions of Article 36-6(1) of the Patent Act. (Demandee's written statement p. 6 l. 8-l. 17)

(12) Allegation in Written reply

A. Regarding a flow passage of the cooling gas in the Patent invention 1

In the Patent invention 1, the cooling gas passes through a flow passage (stator outer peripheral passage) formed by a space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator, and passes through a passage (air gap passage) formed by the air gap. The Patent invention 1 does not specify the relationship between the stator outer peripheral passage and the air gap passage. The patent invention 1 includes not only the stator outer peripheral passage and the air gap passage which are arranged in "parallel" to each other, but also the

passages which are arranged "in series." (Written reply p. 2 l. 2-l. 15)

B. Regarding preventing dust from being sucked into the air gap with passages arranged "in series"

When the Patent invention 1 has a configuration of "arranging a substrate having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end of the stator and one end of the air gap with the substrate," the passages arranged "in series" can prevent large particles of powder dust, which cause lock phenomenon of the air gap when the cooling gas flows into the motor around the substrate, from entering the air gap due to inertial force of gravitational force, thereby reducing the speed thereof. The powder dust falls and accumulated at the bottom of the housing part, thereby preventing the powder dust from being sucked into the air gap. (Written reply p. 2 l. 16-p. 6 last line)

C. Arguments against Written refutation

(A) As described in [Demandant] (10) A., the demandant alleges that the Patent inventions 1 and 2 are inventions configured to allow the cooling gas to flow into the motor from the inner periphery of the substrate, and are not described in the detailed description in the invention. However, as described in [Demandant] (9), the demandant accepts that the cooling gas enters the motor through the gap formed between the hole of the substrate 22 and the sleeve 24 in FIG. 1 of the Patent drawings. Thus, the above allegation of the demandant is groundless. (Written reply p. 8 l. 18-p. 11 l. 4)

(B) As described in [Demandant] (10) B., the demandant alleges that the "substrate covering one end of the stator" is not described in the detailed description of the invention. However, [0029] of the Patent description includes the description, "the circular circuit substrate (22) covers the whole of one end 12d of the stator 12," and the Patent description describes the "substrate covering one end of the stator." Needless to say, the substrate covers one end of the stator, and "covers one end of the stator and one end of the air gap." (Written replay p. 11 l. 5- p. 12 l. 5)

2. Regarding Reason for invalidation 2

[Demandant]

The Original description describes only an invention which prevents powder dust from entering the brushless motor with a closed dust-proof function of the rotor 13 formed of the inverter circuit substrate 22, the sleeve 24, and the dust-proof cover 25.

According to the amendment (A-3) as of January 25, 2012 (hereinafter referred to as "the Amendment"), Patent invention 1 before correction includes an invention configured to allow the cooling gas containing powder dust to enter the inside of the brushless motor. Thus, it is obvious that the Amendment has introduced new technical matters.

Even if the Correction request is approved, the reason for invalidation 2 is not eliminated.

[Demandee]

Claim 1 in the application does not include the matter specifying that powder dust is prevented from entering the inside of the brushless motor with the "closed dust-proof structure of the rotor 13 formed of the inverter circuit substrate 22, the sleeve 24, and the dust-proof cover 25."

Regardless of whether or not the Correction request is approved, the reason for invalidation is groundless.

3. Regarding Reason for invalidation 3

[Demandant]

The rechargeable angle screw driver FL300FDZ (hereinafter referred to as "FL300FDZ") was published in the catalogue (A-6) in January, 2005, and sold.

FL300FDZ has all configurations of the Patent inventions 1 and 2 before correction. Patent inventions 1 and 2 before correction correspond to inventions of Article 29-1(2) of the Patent Act.

Even if the Correction request is approved, the reason for invalidation 3 is not eliminated.

[Demandee]

The substrate of FL300FDZ has 6 long holes, or ventilation holes, which expose the stator coil. The substrate of FL300FDZ has no constituent components that are "arranged close to one end of the stator and formed to cover the one end" of Patent invention 1 before correction.

Regardless of whether or not the Correction request is approved, the reason for invalidation is groundless.

4. Regarding Reason for invalidation 4

[Demandant]

The substrate of FL300FDZ has 6 ventilation holes. The substrate covering one end of the stator is described in A-13. Employment of the substrate of A-13 as a substrate of FL300FDZ could be easily conceived by a person skilled in the art.

FL300FDZ includes a matter limited in Patent invention 2 before correction. Patent inventions 1 and 2 before correction have been patented in breach of the provisions of Article 29-2 of the Patent Act.

Even if the Correction request is approved, the reason for invalidation 4 is not eliminated.

[Demandee]

The first wiring substrate 40 of A-13 has a ventilation hole 42. The ventilation hole 42 is located in a position corresponding to an end of a coil. Even when FL300FDZ is combined with the technology f A-13, Patent invention 1 before correction is not suggested. Patent invention 2 before correction is based on Patent invention 1 before correction, and is not suggested by FL300FDZ and A-13.

Regardless of whether or not the Correction request is approved, the reason for invalidation is groundless.

No.6 Judgment by the body regarding the reason for invalidation 1

Whether the description in the scope of claims complies with the requirements that "the invention for which a patent is sought is described in the detailed description of the invention" of Article 36-6(1) of the Patent Act should be determined by examining whether or not the invention described in the scope of claims is the invention described in the detailed description of the invention, and whether or not it can be acknowledged that a person skilled in the art could solve the problems of the invention based on the detailed description of the invention by means of comparing the description in the scope of claims with the description in the detailed description of the invention, and whether or not a person skilled in the art could solve the problems of the invention by means of referring to the technical common sense at the time of filing the application even in the absence of the descriptions or the suggestions.

First, we will examine the problem to be solved by the Patent invention (hereinafter referred to as "Problem to be solved"), then examine whether it can be acknowledged that a person skilled in the art could solve the problems of the invention based on the detailed description of the invention, and examine whether the invention described in the scope of claims is the invention described in the detailed description of the invention, and whether or not it can be acknowledged that a person skilled in the art

could solve the problems of the invention based on the detailed description of the invention.

1. Description in Patent description

The Patent description describes as follows. Underlines were added by the body for reference.

(1)"[Technical field]
[0001]

This invention relates to a power tool using a brushless motor, especially a structure of a power tool improved in cooling effect and dust-proof effect for a brushless motor housed in a motor housing part.
[Background]
[0002]

Generally, a brushless motor (DC motor) can be made compact, and needs no electric connection to a rotor attached to a rotary shaft with a brush and a commutator, thereby achieving long service life. Therefore, the brushless motor can be used as a drive source of a cordless power tool.
[0003]

However, when the brushless motor is driven, relatively large power loss is generated as heat, and the heat may interfere with high output or normal operation of the motor. Most of the power loss is copper loss caused when a current flows in a stator coil, and iron loss in stator core material caused due to the change in magnetic flux density. The iron loss in the stator part is a large heat generation source. Accordingly, the brushless motor cannot be applied to a cordless power tool.
[0004]

Therefore, in a conventional brushless motor, various stator cooling structures have been proposed. For example, a conventional stator cooling structure is, as disclosed in the following patent document 1, such that the stator coil part is directly cooled by introducing the air into the housing by a fan integrated with the rotor, with an opening for sucking the outside air into the motor housing and an opening for discharging the cooling air in the housing to the outside of the housing, which are arranged in the housing at a distance from each other in a rotary shaft direction across the stator, especially by allowing the cooling air to flow between stator coils.
[0005]

In the brushless motor, an output transistor constituting a switching element of

an inverter circuit substrate (motor drive circuit substrate) supplies a large-current driving signal to the stator coil, to increase the amount of heat generated, thereby requiring cooling measures. A cooling structure of the inverter circuit substrate is proposed, as disclosed in the following patent document 2, to arrange a stator part of the motor and the inverter circuit substrate on a flow passage of the cooling gas in the motor housing."

(2) "[Problem to be solved by the invention]
[0007]

The brushless motor needs no electric connection to the rotor of the motor, with a brush and a commutator, thereby extending the service life and easily achieving a dust-proof structure for preventing dust from entering the inside of the motor. Therefore, the brushless motor is suitable as a drive source of a mobile power tool (cordless power tool) using a DC power source.
[0008]

The inventor or the like examined applying the brushless motor to a drive source of a mobile power tool, such as an impact driver. However, when a power tool is used in a work environment where particles of wood powder or metal powder are contained in the air, an air gap between the stator and the rotor of the motor is clogged with the iron powder or wood powder, to cause motor lock phenomenon. As a result, a failure of the power tool is caused by fire damage of coil or a drive transistor of the motor due to an excessive large current flowing into coil. Dust proof measures have been required.
[0009]

As a simple dust-proof structure for preventing dust from entering a motor, there is an idea to hermetically seal the entirety of the housing. However, cooling air does not flow merely by hermetically sealing the entirety of the motor, and as a result, cooling effect is reduced. Temperature of wiring is abnormally increased in normal operation, to cause a failure, such as fire damage of a coil.
[0010]

Thus, the purpose of the invention is to provide a power tool to be driven by a brushless motor having a cooling structure with excellent cooling effect for the motor part, and a dust-proof structure for the motor part to prevent dust from being sucked, and to prevent motor lock phenomenon, thereby preventing a failure of the power tool due to damage to a coil or the drive transistor of the motor."

(3) "[0028]

The inverter circuit 22 is formed of a circular circuit substrate with 6 output transistors (switching elements) 21 having large current capacity, such as IGBTs (Insulated Gate Bipolar Transistors), and electrically connected in a bridge configuration, in order to supply three-phase large drive currents to stator coils 12a of the brushless motor 3. The circular circuit substrate of the inverter circuit 22 forms a part of the dust-proof function for preventing powder dust from entering the rotor 13.
[0029]

According to the Invention, the circular circuit substrate (22) of the inverter circuit covers the whole of one end 12d of the stator 12, and has a hole formed at the center thereof to allow the rotary shaft 11 and the sleeve 24 to penetrate. A dust-proof cover 25 is arranged on the other end 12e of the stator 12, to cover a side face of the other end 12e of the stator, like the inverter circuit. Both inverter circuit substrate 22 and dust-proof cover 25 form a dust-proof structure (hermetic structure) for closing or hermetically shielding the rotor 13, together with the stator 12, to prevent powder dust from entering the rotor 13 of the motor part 3."

(4) "[0041]

As shown in FIG. 2 and FIG. 3, the motor housing part 50a includes a plurality of stator holding members 23 having projections (ribs) 23a, 23b protruding from the inner peripheral part thereof to the outer peripheral part of the stator 12 and extending in a motor rotary shaft direction, and isolated from each other with space parts 19. The stator holding members 23 for gripping or holding the stator 12 include a planar stator holding member (23a) having a large top width W1 (See FIG. 3) of the projection 23a, and a bar-like stator holding member (23b) having a small top width W2 (W2<W1) (See FIG. 3) of the projection 23b. As shown in FIG. 2 and FIG. 4 (2), a pair of adjacent bar-like stator holding members 23b are formed of bar-like stator holding members 23b having different lengths L1 and L2 (L2<L1) along the rotary shaft direction. The space parts 19 for insulating the stator holding members 23 function as passages (19) of the cooling air (gas) 20.
[0042]

As shown in FIG. 1, the rotary shaft 11 of the rotor 13 includes the sleeve 24 and the cooling fan 15. The cooling fan 15 is also rotated simultaneously when the rotor 13 is rotated.
[0043]

By means of the cooling fan 15, the cooling air 20 can cool the output transistor 21 of the inverter circuit 22, which generates a large amount of heat. Especially, the

output transistor 21 constituting the inverter circuit 22 is formed of a switching transistor having large current capacity, such as an IGBT, to drive the stator coils 12a with a large current. Power loss of the output transistor 21 is increased, to cause a problem of a large amount of heat generation. Therefore, it is important to improve cooling effect for the output transistor 21 of the inverter circuit 22. The cooling air 20 can also cool the heat generated in the stator part 12 based on iron loss to be generated in the stator core of the stator 12 or copper loss generated in the stator coils 12a. A flow of the cooling air 20 in the Invention is as follows.

[0044]

As shown in FIG. 1, the cooling air 20 sucked by the cooling fan 15 flows into the motor housing 50a through the inlet 17, to cool the output transistor 21 arranged in the inverter circuit 22. After that, the cooling air 20 cools the outer peripheral part of the stator 12 when passing through an air passage (space part) 19 arranged in a gap between an inner wall of the motor housing part 50a and the stator 12, and is guided to the cooling fan 15. Then the cooling air is discharged through the outlet 18.

[0045]

In cooling, as shown in FIG. 3, the stator holding members 23 isolated with the cooling-air passages 19 are in contact with each other in the manner of fins in the outer peripheral part of the stator 12, thereby allowing the cooling air to cool a large area of the stator 12, and increasing holding force (gripping force) of the stator holding member 23 to hold the stator 12."

(5) "[0049]

As described above, the circular circuit substrate 22 constituting the inverter circuit is arranged at one end 12d of the stator 12. The dust-proof cover 25 is arranged at the other end 12e of the stator 12. The circular circuit substrate 22 and the dust-proof cover 25 are arranged to block both ends of the rotor, and form a hermetic structure surrounding the rotor 13 together with the stator 12, thereby preventing undesired powder dust conveyed into the motor housing part 50a from entering the inside of the rotor 13, with the cooling air 20 described above. The mounting structure of the above embodiment can improve cooling effect for the motor part, and can provide a power tool having a dust-proof structure for the motor part."

2. Examination of prior arts in the Patent description and the problem to be solved of the Patent invention

In light of the descriptions in the above 1. (1) and (2), the following prior arts or

the problem to be solved of the Patent invention can be recognized.

(1) The brushless motor, which can be made compact and extended in service life, has been considered for employment as a drive source for a cordless power tool; however, heat is generated when the brushless motor is driven, and normal operation is hindered by the heat. Accordingly, various cooling structures have been suggested.

(2) The brushless motor needs no brush or commutator, and can easily achieve a dust-proof structure for preventing dusts from entering the motor, thereby preventing lock phenomenon where an air gap between the stator and the rotor of the motor is clogged with iron powder or wood powder due to the air containing powder dust of wood powder or metal powder, resulting in causing fire damage of coils or the drive transistor. Accordingly, dust-proof measures are required.

(3) As a simple dust-proof structure for preventing dusts from entering the motor, the whole of the motor is to be hermetically sealed. However, only by the hermetic structure, cooling air cannot flow, and cooling effect is reduced.

(4) The problem to be solved of the Patent invention is to provide a power tool to be driven by a brushless motor having a cooling structure with excellent cooling effect for a motor part, and a dust-proof structure for the motor part, so as to prevent dusts from being sucked, and to prevent a failure of the power tool due to fire damage of coils or a drive transistor of the motor, by preventing motor lock phenomenon.

(5) The causal association of "only by the hermetic structure, cooling air cannot flow" in the above (3), means, on the tacit assumption that a sufficient amount of air has been supplied into the motor for cooling the motor, that the cooling air cannot flow into the motor inevitably only by hermetically sealing the motor.

The Patent invention is to solve the problem of the prior cooling technology. In view of the prior cooling technology that a sufficient amount of air for cooling has been supplied to the motor and that powder dusts of wood powder or metal powder contained in the air enter the motor (the above (2)), the "brushless motor having a cooling structure with excellent cooling effect for a motor part, and a dust-proof structure for the motor part, so as to prevent dusts from being sucked" in the problem to be solved of the Patent invention in (4) has a different cooling structure from the prior cooling structure that sufficient amount of air for cooling is supplied into the motor, and is considered to

mean a "brushless motor having a cooling structure with excellent cooling effect for a motor part and a dust-proof structure for the motor part, so as to prevent dusts from being sucked, on the assumption of preventing the air from entering the inside of the motor."

Furthermore, in view of the "lock phenomenon where an air gap between the stator and the rotor of the motor is clogged with iron powder or wood powder" (the above (2)), the description, "preventing motor lock phenomenon" in the problem to be solved of the Patent invention in (4) can be recognized to mean specifically, "preventing dusts from being sucked into the air gap between the stator and the rotor of the motor."

3. Examination as to whether a person skilled in the art can solve the problem on the basis of the descriptions in the detailed description of the invention

In light of the descriptions in the above 1. (3), (4), and (5), according to the detailed description of the invention, it can be seen that a dust-proof structure (hermetic structure) for closing or hermetically sealing the whole of the motor can be achieved with the inverter circuit substrate 22 for covering the whole of one end of the stator 12, the dust-proof cover 25, and the stator 12, and cooling effect for the motor part can be improved by arranging the stator holding member 23 in the motor housing part 50a to form the cooling-air passage 19 in the outer periphery of the stator 12. It is obvious that the dust-proof structure (hermetic structure for closing or hermetically sealing the whole of the motor prevents the air from entering the inside of the motor, and that the stator holding member 23 or the cooling-air passage 19 achieves the "cooling structure with excellent cooling effect for the motor part.")

It is also obvious that the dust-proof structure (hermetic structure) for closing or hermetically sealing the whole of the motor is the "dust-proof structure of the motor part so as to prevent dusts from being sucked" on the assumption of preventing the air from entering the inside of the motor.

Therefore, it can be said that the detailed description of the invention describes the "brushless motor having a cooling structure with excellent cooling effect for a motor part and a dust-proof structure for the motor part, so as to prevent dusts from being sucked, on the assumption of preventing the air from entering the inside of the motor."

Furthermore, it is obvious that the brushless motor can prevent motor lock phenomenon, while preventing fire damage of coils or a drive transistor of the motor. It can be recognized that a person skilled in the art could solve the problem to be solved of the Patent invention in 2. (4), on the basis of the descriptions in the detailed description of the invention.

Thus, it can be recognized that, on the basis of the descriptions in the detailed description of the invention, a person skilled in the art can solve the problem, "to provide a power tool to be driven by a brushless motor having a cooling structure with excellent cooling effect for the motor part and a dust-proof structure for the motor part, so as to prevent dusts from being sucked, thereby preventing motor lock phenomenon, while preventing a failure of the power tool due to damage to coils or a drive transistor of the motor," on the assumption of preventing the air from entering the inside of the motor.

4. Examination as to whether the invention described in the scope of claims is the invention described in the detailed description of the invention, and whether it can be acknowledged that a person skilled in the art could solve the problems of the invention based on the detailed description of the invention

(1) Regarding Patent invention 1

The Patent invention 1 is as described in the above No. 3. 1., and the description, "arranging a projection which protrudes from the inner peripheral part of the housing part to the outer peripheral part of the stator, to hold the outer peripheral part of the stator, causing a cooling gas for the stator received by the cooling fan through the inlet into the housing part to flow to use, as a flow passage, a space part formed between the inner peripheral part of the housing part and the outer peripheral part of the stator" can be recognized to indicate the "cooling structure with excellent cooling effect for the motor part."

The Patent invention 1 describes "arranging a substrate having a hole through which the rotary shaft penetrates, close to one end of the stator opposite the side where the cooling fan is arranged, to cover the one end of the stator and one end of the air gap with the substrate." However, it cannot be said that the motor can be completely closed or hermetically sealed by only covering one end of the stator or one end of the air gap with the substrate. It has to be said that the Patent invention 1 allows the cooling gas to flow in the motor through the hole of the substrate; specifically, to flow in the air gap formed between the stator and the rotor of the motor.

Therefore, the cooling gas of the Patent invention 1 flows in the space part, serving as a flow passage (hereinafter referred to as "stator outer peripheral passage"), formed between the inner peripheral part of the housing part and the outer peripheral part of the stator, and flows in the air gap, serving as a flow passage (hereinafter referred to as "air gap passage"), formed between the stator and the rotor in the motor. However, Patent invention 1 does not specify a connection relationship between the

stator outer peripheral passage and the air gap passage. Patent invention 1 apparently allows and includes a serial connection relationship between the stator outer peripheral passage and the air gap passage, such as a connection relationship where the cooling gas received into the housing part through the inlet passes through the stator outer peripheral passage and all of the gas flows in the air gap passage, while the detailed description of the invention does not describe that the stator outer peripheral passage and the air gap passage are connected in series.

If Patent invention 1 includes the serial connection relationship between the stator outer peripheral passage and the air gap passage, all of the cooling gas received into the housing part is to flow in the air gap passage. It cannot be said that Patent invention 1 achieves the cooling structure on the assumption of preventing the air from entering the inside of the motor, described in the above 2. (5), or the dust-proof structure on the assumption of preventing the air from entering the inside of the motor. The cooling gas contains wood powder or metal powder. If all of the cooling gas received into the housing part passes through the air gap passage, dust of the wood powder or metal powder also passes through the air gap passage. Therefore, Patent invention 1 does not "prevent dust from being sucked into the air gap formed between the stator and the rotor of the motor," described in the above 2. (5), as well as not "preventing motor lock phenomenon."

Thus, it cannot be said that the Patent invention 1, which includes a serial connection relationship between the stator outer peripheral passage and the air gap passage, is the invention described in the detailed description of the invention, and that the Patent invention 1 solves the problem to be solved of the Patent invention, "to provide a power tool to be driven by a brushless motor having a cooling structure with excellent cooling effect for the motor part and a dust-proof structure for the motor part, so as to prevent dusts from being sucked, thereby preventing motor lock phenomenon, while preventing a failure of the power tool due to fire damage to coils or a drive transistor of the motor," described in the above 2. (4). It cannot be said that the description in the Patent invention 1 complies with the requirements, "the invention for which a patent is sought is described in the detailed description of the invention" in Article 36-6(1) of the Patent Act.

(2) Regarding Patent invention 2

Patent invention 2 is as described in the above No. 3. 2, and it cannot be said that the "plurality of ribs" in the Patent invention 2 "prevent dusts from being sucked." It cannot be said that Patent invention 2 describes about the "dust-proof structure for the

motor part so as to prevent dusts from being sucked."

Therefore, it cannot be said that Patent invention 2 can solve the problem to be solved of the Patent invention. It cannot be said that the description of Patent invention 2 complies with the requirements, "the invention for which a patent is sought is described in the detailed description of the invention" in Article 36-6(1) of the Patent Act.

5. Summary

As described above, the descriptions in Patent inventions 1 and 2 do not comply with the provisions of Article 36-6(1) of the Patent Act. The patent according to Patent inventions 1 and 2 is for an application that does not comply with the requirements stipulated in Article 36-6(1) of the Patent Act. The patent falls under Article 123-1(4) of the Patent Act, and should be invalidated.

6. The demandee's allegation

(1) Regarding the allegation in No. 5 1. [Demandee] (1)

The demandee alleges, in the examination on the application relating to the Patent, that the examiner examines the patent after approving that the invention relating to Claim 1 at the time of application is not limited to an invention having a "hermetic structure" or having a "cover member." It cannot be said that the examiner has made such recognition and judgment after recognizing that the invention relating to Claim 1 at the time of application includes a serial connection relationship between the stator outer peripheral passage and the air gap passage. The judgment by the body is not restricted by the decision by the examiner, and the allegation of the demandee cannot be accepted.

(2) Regarding the allegation in No. 5. 1. [Demandee] (2)

The demandee alleges a working effect of Patent invention 1 before correction, which is not "preventing dust from being sucked," but "preventing dust from directly hitting against the stator coil." Even by "preventing dust from directly hitting against the stator coil," the working effect of "preventing dust from being sucked" cannot be produced.

Therefore, even if Patent invention 1 produces the effect alleged by the demandee, the recognition and judgment by the body described in the above 2.-5. are not hindered.

(3) Regarding the allegation in No. 5. 1. [Demandee] (3)

The demandee alleges that the purpose of the invention, "to provide a power tool to be driven by a brushless motor having a cooling structure with excellent cooling effect for the motor part and a dust-proof structure for the motor part, so as to prevent dusts from being sucked" can be attained, as described in [0010], since a person skilled in the art can recognize "preventing dust included in the cooling air from directly hitting against the coil, and allowing an air flow for cooling the stator 12 to be used for cooling the circuit substrate 22" on the basis of the matters specifying the invention of the Patent invention 1 before correction.

However, even by "preventing dust included in the cooling air from directly hitting against the coil," the effect, "preventing dust from being sucked" cannot be produced immediately. The allegation of the demandant does not hinder the recognition and judgment by the body described in the above 2.- 5.

The demandee alleges also, relating to Another advisory opinion, that "the configuration where the air is inverted to be discharged through the inside of the brushless motor" also belongs to the technical scope of Patent invention 1 before correction. It is the allegation that all the air flowing into the housing is discharged through the inside of the motor, in the power tool of Patent invention 1 before correction. If all the air passes through the inside of the motor, the effect, "preventing dust from being sucked," as described in the above 4. (1), cannot be produced.

Thus, the allegation does not hinder the recognition and judgment by the body described in the above 2.-5.

(4) Regarding the allegation in No. 5. 1. [Demandee] (4)

The demandee alleges about "covering one end of the stator" in the Patent invention 1 before correction, that "covering" means "putting something over the whole of something so as to eliminate exposure," that the substrate in the Patent invention 1 before correction covers one end of the stator so that dust may not collide with the stator, and that it is reasonable to interpret that the "one end of the stator" includes the space in the stator.

The correction relating to the Correction request was approved, and the Patent invention 1 is recognized "to cover one end of the stator and one end of the air gap with the substrate." In light of the fact, as described in the above 4. (1), that the Patent invention 1 includes a serial connection relationship between the stator outer peripheral passage and the air gap passage, it is not an invention described in the detailed description of the invention, and does not solve the problem to be solved of the Patent invention shown in the above 2. (4). Thus, the allegation of the demandee does not

hinder the recognition and judgment by the body described in the above 2.- 5.

(5) Regarding the allegation in No. 5. 1. [Demandee] (5)

The demandee alleges that the problem to be solved, "to provide a power tool having a cooling structure and a dust-proof structure" can be solved by Patent invention 1 before correction. However, as described in 4. (1), Patent invention 1 includes a serial connection relationship between the stator outer peripheral passage and the air gap passage, and is not an invention described in the detailed description of the invention. It cannot be said that the problem to be solved of the Patent invention shown in the above 2. (4) is solved. The allegation of the demandee does not hinder the recognition and judgment by the body described in the above 2.-5.

(6) Regarding the allegation in No. 5. 1. [Demandee] (6)

The demandee alleges that Patent invention 1 before correction, which covers one end of the stator with the substrate, has a working effect of preventing damage to coils with the substrate. However, even when the above working effect is produced, the working effect, "preventing dust from being sucked" cannot be produced immediately. Thus, it cannot be said that Patent invention 1 has a "dust-proof structure for the motor part so as to prevent dust from being sucked."

Therefore, the allegation of the demandee does not hinder the recognition and judgment by the body described in the above 2.-5.

(7) Regarding the allegation in No. 5. 1. [Demandee] (7)

The demandee alleges, regarding the Another advisory opinion, that it can be assumed that the problem of the Patent invention before correction has been recognized no to be limited to providing a power tool which reliably prevents dusts and air from entering the motor. However, in the Another advisory opinion, the requirements for Article 36-6(1) of the Patent Act are not examined, and the judgment by the body is not restricted by the judgment of the Another advisory opinion. The allegation of the demandee cannot be accepted.

(8) Regarding the allegation in No. 5. 1. [Demandee] (8)

The demandee alleges the interpretation of "covering one end of the stator" of Patent invention 1 before correction, or the working effect of Patent invention 1 before correction. However, the allegation of the demandee cannot be accepted due to the same reason as the reasons described in the above (4) and (2).

(9) Regarding the allegation in No. 5. 1. [Demandee] (9)

The demandee alleges the interpretation of "covering one end of the stator" of Patent invention 1 before correction. However, the allegation of the demandee cannot be accepted due to the same reason as the reason described in the above (4).

The demandee alleges that the left configuration of the Appendix 3 in the 1st oral proceedings record shows a configuration having a gap between the hole of the substrate and the sleeve, and it is included in the technical scope of Patent invention 1 before correction. As alleged above, Patent invention 1 also includes a configuration having a gap between the hole of the substrate and the sleeve. As described in 4. (1), Patent invention 1 includes a serial connection relationship between the stator outer peripheral passage and the air gap passage, and it cannot be said that the invention is an invention described in the detailed description of the invention and solves the problem to be solved of the Patent invention shown in the above 2. (4). Thus, the allegation of the demandee does not hinder the recognition and judgment by the body described in the above 2. to 5.

(10) Regarding the allegation in No. 5. 1. [Demandee] (10)

The demandee alleges that Patent invention 1 before correction configured to cover one end of the stator with the substrate prevents large particles of powder dust from flowing in the slot, on the assumption that the cooling gas flows into the motor around the substrate, or that the problem to be solved, "to prevent dust from being sucked into the air gap between the stator and the rotor of the motor" can be solved.

The correction relating to the Correction request was affirmed, while the demandee made the same allegation also on Patent invention 1 in No. 5. 1. [Demandee] (11). The allegation will be examined in the next (11).

(11) Regarding the allegation in No. 5. 1. [Demandee] (11)

The demandee alleges that when the power tool relating to Patent invention 1 has a gap formed on the side of the inner periphery of the substrate, part of the cooling gas entering into the housing through the inlet on the outer peripheral surface flows "around the substrate," and large particles of powder dust move through the gap on the side of the inner periphery of the substrate due to inertial force or gravitational force, thereby preventing the large particles of powder dust from entering the air gap, resulting in prevention of lock phenomenon.

Even if the large particles of powder dust move through the gap on the side of

the inner periphery of the substrate, as alleged by the demandee, it has to be said that the large particles of powder dust entering into the housing move freely, since Patent invention 1 has no means of discharging the powder dust to the outside of the housing or means of collecting the powder dust in a specific place in the housing so as not to be dispersed. The power tool of Patent invention 1 is used in various attitudes. An electric screwdriver, for example, is sometimes turned up or down, in accordance with a screw position, when in use. As described in the above 4. (1), the Patent invention 1 includes a serial connection relationship between the stator peripheral passage and the air gap passage. If the passages are connected in series, the cooling gas passes through the air gap passage reliably. In light of the above, it should be said that it is highly probable that the large particles of dust entering into the housing reach the air gap passage together with the cooling gas flowing in the passage, in the process of moving freely in the housing, due to changing the attitude of the power tool upward or downward.

According to the Patent description, the powder dust contains "iron powder" ([0008] in 1. (2)). It is a matter of technical common sense that the rotor of the brushless motor of the Patent invention 1 has a permanent magnet. Patent invention 1 has a serial connection relationship between the stator outer peripheral passage and the air gap passage. In light of the above, it should be said that it is highly probable that the air gap is clogged with iron powder attracted to the permanent magnet of the rotor in the process of all of fine iron powder particles entering the housing passing through the air gap passage together with the cooling gas, as well as the large particles of powder dust alleged by the demandee.

Therefore, the allegation of the demandee cannot be accepted.

(12) Regarding the allegation in No. 5. 1. [Demandee] (12)

The demandee alleges that large particles of powder dust are prevented from entering the air gap due to inertial force or gravitational force, on the assumption that Patent invention 1 has a serial connection relationship between the stator outer peripheral passage and the air gap passage, and fall slowly to be accumulated at the bottom of the housing part, thereby preventing the powder dust from being sucked into the air gap.

However, as described in the above (11), Patent invention 1 has no means of discharging the powder dust to the outside of the housing or means of collecting the powder dust in a specific place in the housing so as not to be dispersed. It should be said that it is highly probable that the power dust reaches the air gap passage together with the cooling gas flowing in the passage, in the process of moving freely in the

housing, due to changing the attitude of the power tool upward or downward. Thus, the allegation of the demandee cannot be accepted.

No.7 Closing

As described above, the patent regarding Patent inventions 1 and 2 is for an application that does not comply with the requirements stipulated in Article 36-6 (1) of the Patent Act. The patent falls under Article 123-1 (4) of the Patent Act and should be invalidated without examining the other reasons for invalidation.

The costs in connection with the trial shall be borne by the demandee 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 13, 2016

Chief administrative judge: KURITA, Masahiro
Administrative judge: KARIMA, Hironobu
Administrative judge: HIRAIWA, Shoichi