Trial decision

Correction No. 2016-390104

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The case of trial for correction of Japanese Patent No. 3611969 has resulted in the following trial decision.

Conclusion

The correction of Claims 1 to 3 of Japanese Patent No. 3611969 shall be approved as the corrected Claims attached to the written demand for trial of the case.

Reason

No. 1 History of the procedures

Japanese Patent No. 3611969 subjected to the demand for trial for correction (referred to as "the Patent" below) was filed on July 9, 1998, and the establishment of patent right was registered on October 29, 2004.

The trial for correction of the case was requested on August 12, 2016.

No. 2 Object of the demand

The object of the demand for trial for correction of the case is to request the body to approve that Claims 1 to 3 of Japanese Patent No. 3611969 be corrected as the corrected Claims attached to the written demand for trial of the case.

No. 3 Details of the Correction

Details of the correction are as follows.

Correction A

In Claim 1 before correction, the description "a solenoid stored in a fitting hole provided in a counter housing member, comprising: an end member configured to be formed of a corrosion resistant material which is hermetically fitted into the fitting hole to cover an opening of the fitting hole; and a seal member configured to be arranged between the fitting hole and the end member to prevent entrance of external atmosphere."

is corrected to read

"a solenoid stored in a fitting hole provided in a counter housing member, comprising:

a case member configured to be inserted into the fitting hole; a coil member configured to be stored in the case member; a center post member configured to be fixed to an inner side of one opening end of the case member and extend to an inner cylinder of the coil member; a plunger chamber configured to be positioned in the inner cylinder of the coil member, be surrounded by a bottomed cylindrical sleeve, and have a reciprocatively movable plunger arranged in the plunger chamber; an upper plate configured to be arranged between the other opening end of the case member and the plunger chamber; an end member configured to be formed of a corrosion resistant material which is hermetically fitted into the fitting hole on the outside of the upper plate to cover an opening of the fitting hole; a seal member configured to be arranged between the fitting hole and the end member to prevent entrance of external atmosphere; and a rod configured to be connected to the plunger and be capable of

opening and closing a valve element of a valve, wherein the seal member to prevent the entry of fluid from the valve side is provided on an outer periphery of the valve side of the solenoid."

No. 4 Judgment by the body

1. Demand for correction for each group of Claims

Correction A is to correct the description in Claim 1 before correction, and Claims 2 and 3 before correction directly or indirectly depend on Claim 1 before correction. Therefore, Claims 1 to 3 before correction form a group of Claims having a relation as provided in Article 45(4) of Regulations under the Patent Act.

Therefore, the demand for trial for correction of the case falls under the provisions of Article 126(3) of the Patent Act.

2. Propriety of the purpose of correction

Correction A restricts the "solenoid" described in Claim 1 before correction to "include a case member configured to be inserted into the fitting hole; a coil member configured to be stored in the case member; a center post member configured to be fixed to an inner side of one opening end of the case member and extend to an inner cylinder of the coil member; a plunger chamber configured to be positioned in the inner cylinder of the coil member, be surrounded by a bottomed cylindrical sleeve, and have a reciprocatively movable plunger arranged in the plunger chamber; an upper plate configured to be arranged between the other opening end of the case member and the plunger chamber" and "a rod configured to be connected to the plunger and be capable of opening and closing a valve element of a valve" and "to provide the seal member to prevent the entrance of fluid from the valve side on an outer periphery of the valve side of the solenoid." Also, Correction A restricts "an end member configured to be formed of a corrosion resistant material which is hermetically fitted into the fitting hole to cover an opening of the fitting hole" described in Claim 1 before correction to be hermitically fitted into the fitting hole "on the outside of the upper plate." Therefore, the purpose of the correction is to restrict the scope of claims.

Also, Claims 2 and 3 before correction directly or indirectly depending on Claim 1 before correction similarly restrict the scope of claims.

Therefore, the purpose of Correction A is to restrict the scope of claims as provided in Article 126(1)(i) of the Patent Act.

3. Whether Correction A is within the scope of the matters described in the description,

claims, or the drawings attached to the application

Paragraph 0023 of the description attached to the application (referred to as the "Description" below) describes that "a solenoid 1 includes a cylindrical case member 2, a coil member 3 stored in the case member 2, and a center post member 4 fixed to the inner side of one opening end 2a of the case member 2 and extending to the inner cylinder of the coil member 3...." Paragraph 0031 describes that "a fitting hole Ha in which the case member 2 is inserted is included in a counter housing H for storing the solenoid 1." Therefore, the Description describes that the solenoid includes "a case member inserted into the fitting hole, a coil member stored in the case member, and a center post member fixed to an inner side of one opening end of the case member and extending to the inner cylinder of the coil member."

Paragraph 0023 of the Description describes that "the solenoid 1 ... includes a plunger chamber PR positioned in the inner cylinder of the coil member 3." Paragraph 0024 describes that "a plunger 5 which is stored in a reciprocatively movable state in the axial direction is arranged in the plunger chamber PR." Paragraph 0025 describes that "the plunger chamber PR is surrounded by a bottomed cylindrical sleeve 7 formed of a nonmagnetic stainless material." Therefore, the Description describes that the solenoid includes "a plunger chamber which is positioned in the inner cylinder of the coil member, is surrounded by the bottomed cylindrical sleeve, and has a reciprocatively movable plunger arranged in the plunger chamber."

Paragraph 0024 of the Description describes that "an upper plate 6 closes an annular space with the plunger chamber PR in the other opening end 2b of the case member 2." Therefore, it can be said that the Description describes that the solenoid includes "the upper plate arranged between the other opening end of the case member and the plunger chamber."

Paragraph 0029 of the Description describes that "a rod 11 for transmitting a movement of the plunger in the axial direction is connected to the plunger 5." Paragraph 0030 describes that "the rod 11 passes through an inner cylinder of a center post member 4 and can open and close a valve element of a valve V which is not shown." Therefore, the Description describes that the solenoid includes "a rod which is connected to the plunger and can open and close the valve element of the valve."

Paragraph 0033 of the Description describes that "at the bottom of the fitting hole Ha, a recessed groove 8d and an O-ring 14 provided on the outer periphery of the one opening end 2a of the case member 2 prevent entrance of fluid from the valve V." With reference to the description in paragraphs 0023, 0024, 0029, and 0030 in the Description described above, it can be read that the plunger chamber is positioned on

the other opening end of the case member, the rod connected to the plunger stored in the plunger chamber passes through the inner cylinder of the center post member fixed to the inner side of the one opening end of the case member and transmits the movement of the plunger in the axial direction to the valve element of the valve V. Therefore, it is obvious that the one opening end of the case member is on the valve side of the solenoid. Then, it can be said that the Description describes that "the seal member to prevent the entrance of the fluid from the valve side is provided on an outer periphery of the valve side of the solenoid."

Paragraph 0026 of the Description describes that "on the outer side of the upper plate 6 (opposite side of coil member 3), a head part 8 which is resin-molded and integrated with the coil member 3 as an end member is provided," and the paragraph 0031 describes that "the fitting hole Ha to which the head part 8 is inserted is included ... in the counter housing H for storing the solenoid 1." Also, paragraph 0032 describes that "the inner diameter dimension of the fitting hole Ha and the outer diameter dimension of the head part 8 are set to be fitting dimensions to realize sealing performance and to be easily removed in a case where the head part 8 is fitted into the fitting hole Ha. The O-ring 13 is provided to assist hermetical engagement." Therefore, the Description describes that the end member is hermetically sealed with and fitted into the fitting hole "on the outer side of the upper plate."

Accordingly, Correction A is correction within the scope of the matters described in the description, Claims, or the drawings attached to the application and falls under the provisions of Article 126(5) of the Patent Act.

4. Whether the scope of claims is substantially expanded or changed

As described in "2. in No. 4," Correction A has been made to restrict the scope of claims. Correction A does not fall under a correction that substantially expands or changes the scope of claims and falls under the provisions of Article 126(6) of the Patent Act.

5. Judgment on independent requirements for patentability

(1) Corrected invention

The inventions according to the corrected Claims 1 to 3 (respectively referred to as "Corrected invention 1" to "Corrected invention 3") are as follows, as specified by Claims 1 to 3 of the corrected claims attached to the written demand for trial of the case.

"1. A solenoid stored in a fitting hole provided in a counter housing member, the

solenoid comprising:

a case member configured to be inserted into the fitting hole; a coil member configured to be stored in the case member; a center post member configured to be fixed to an inner side of one opening end of the case member and extend to an inner cylinder of the coil member; a plunger chamber configured to be positioned in the inner cylinder of the coil member, be surrounded by a bottomed cylindrical sleeve, and have a reciprocatively movable plunger arranged in the plunger chamber; an upper plate configured to be arranged between the other opening end of the case member and the plunger chamber; an end member configured to be formed of a corrosion resistant material which is hermetically fitted into the fitting hole on the outside of the upper plate to cover an opening of the fitting hole; a seal member configured to be arranged between the fitting hole and the end member to prevent entry of external atmosphere; and a rod configured to be connected to the plunger and be capable of opening and closing a valve element of a valve, wherein

the seal member to prevent the entry of fluid from the valve side is provided on an outer periphery of the valve side of the solenoid.

2. The solenoid according to claim 1, wherein

the end member is a resin-molded member integrated with the coil member.

3. The solenoid according to claim 1 or 2, comprising:

a locking member configured to be locked with an opening of the fitting hole and abut on an outer end surface of the end member."

(2) Invention described in Cited Document

In the CD-ROM of Japanese Utility Model Application No. H3-96794 (Japanese Unexamined Utility Model Application Publication No. H5-40679) (referred to as "Cited Document" below) presented by Demandant in the written demand for trial, the following description is made together with the drawings.

(A) "[claims of utility model]

1. A solenoid valve comprising:

a mold part 1; and a case 2 configured to cover the mold part 1 from an outer periphery side, wherein

in the solenoid valve which is attached to a cylinder head 22 of an engine and seals a space between a head cover 21 of the engine with a packing 10, an exposed part 7 of which an outer peripheral surface 8 is exposed from the case 2 to the outside is provided in the mold part 1, a mounting groove 9 is provided in the outer peripheral surface 8 of

the exposed part 7, and the packing 10 is mounted to the mounting groove 9."
(B) "[0007]

As illustrated in FIG. 1, a part 7 of which the outer peripheral surface 8 is exposed from the steel case 2 to the outside (referred to as an exposed part below) is provided in the resin mold part 1, and the mounting groove 9 is provided in the outer peripheral surface 8 of the exposed part 7. The packing 10 is mounted to the mounting groove 9. The mold part 1 includes solenoid components such as a coil 11 and a connector 12. After being molded, the mold part 1 incorporates the components into the case 2 and integrates the components with the case 2 by caulking an end part 13 of the case 2.

However, according to the solenoid valve with the above structure, as illustrated in FIG. 1, only the mold part 1 of the mold part 1 and the case 2 appear outside the head cover 12 (upper side in FIG. 1), and entry of water from outside of the head cover 21 can be prevented by sealing a space between the mold part 1 and the head cover 21 with a single packing 10."
(C) "[0008]

...as illustrated in FIG. 2, solenoid components such as the coil 11 and a plate 14 are incorporated in the case 2 first, the case 2 is integrated with the solenoid components by caulking the end part 13 of the case 2, and after that, the mold part 1 is molded. Also, as illustrated in FIG. 3, the mold part 1 is immediately molded without incorporating the solenoid components such as the coil 11 and the plate 14 in the case 2 and performing caulking."

Based on the description in (A) to (C) and the drawings, the following can be understood.
(D) According to the description in (A) and FIGS. 1 to 3, it can be understood that a part of the solenoid valve is stored in the hole provided in the cylinder head 22, and a part of the case 2 is inserted into the hole provided in the cylinder head 22.
(E) According to the description in (B) and (C) and FIGS. 1 to 3, and the common general technical knowledge, it can be understood that the coil 11 is stored in the case 2, and that the solenoid includes the center post member for extending to the inner cylinder of the coil 11, the plunger chamber positioned in the inner cylinder of the coil 11 and including the reciprocatively movable plunger arranged therein, and the rod which is connected to the plunger and can open and close the valve element of the valve, and that the plate 14 is arranged between the one opening end of the case 2 and the plunger chamber.

(F) According to the description in (A) and (B) and FIGS. 1 to 3, it can be understood that the exposed part 7 is fitted into the hole provided in the head cover 21 on the outside of the plate 14 and the packing 10 is arranged between the hole provided in the head cover 21 and the exposed part 7 to prevent the entrance of water from outside of the head cover 21.

As described above, it is acknowledged that the following invention (referred to as the "Cited Invention" below) is described in the Cited Document.

"A solenoid valve partially stored in a hole provided in a cylinder head 22, comprising:

a case 2 configured to be partially inserted into the hole provided in the cylinder head 22; a coil 11 configured to be stored in the case 2; a center post member configured to extend to an inner cylinder of the coil 11; a plunger chamber configured to be positioned in the inner cylinder of the coil 11 and have a reciprocatively movable plunger arranged in the plunger chamber; a plate 14 configured to be arranged between one opening end of the case 2 and the plunger chamber; a resin exposed part 7 configured to be fitted into a hole provided in the head cover 21 on the outside of the plate 14; a packing 10 configured to be arranged between the hole provided in the head cover 21 and the exposed part 7 to prevent entry of water from outside of the head cover 21; and a rod configured to be connected to the plunger and be capable of opening and closing a valve element of a valve."

(3) Comparison / judgment

(3-1) Regarding Corrected invention 1

Corrected invention 1 and the Cited Invention are compared with each other.

Since the "solenoid valve" in Cited Invention naturally includes a solenoid as a part of the solenoid valve, the "solenoid valve" in Cited Invention corresponds to the "solenoid" in Corrected invention 1.

The "case 2," the "coil 11," the "plate," and the "packing" in the Cited Invention respectively correspond to the "case member," the "coil member," the "upper plate," and the "seal member" in Corrected invention 1 in view of the structures and the functions of the above components.

Since a part of the solenoid valve is stored in the hole provided in the cylinder head 22 so that the solenoid valve is attached to the cylinder head in the Cited Invention, the "cylinder head" and the "hole provided in the cylinder head 22" in the Cited Invention respectively correspond to the "counter housing member" and the "fitting hole

provided in the counter housing member" in Corrected invention 1. Then, the "solenoid valve partially stored in the hole provided in the cylinder head 22" in the Cited Invention coincides with the "solenoid stored in the fitting hole provided in the counter housing member" in Corrected invention 1.

In Corrected invention 1, "the other opening end of the case member" is not specified, except that the upper plate is arranged between the other opening and the plunger chamber." Therefore, the "one opening end of the case 2" in the Cited Invention corresponds to "the other opening end of the case member" in Corrected invention 1.

In the Cited Invention, the exposed part 7 is made of resin which is a corrosion resistant material and fitted into the hole provided in the head cover 21 on the outside of the plate 14, and the packing 10 is arranged between the hole provided in the head cover 21 and the exposed part 7 to prevent the entry of water from the outside of the head cover 21. Accordingly, the "resin exposed part 7 fitted into the hole provided in the head cover 21 on the outside of the plate 14" in the Cited Invention coincides with the "end member formed of a corrosion resistant material which is hermetically fitted into the fitting hole on the outside of the upper plate to cover an opening of the fitting hole" in Corrected invention 1 in a point that "the end member formed of a corrosion resistant material fitted into the hole on the outside of the upper plate." The "packing 10 arranged between the hole provided in the head cover 21 and the exposed part 7 to prevent the entry of water from the outside of the head cover 21" in the Cited Invention coincides with the "seal member arranged between the fitting hole and the end member to prevent entry of external atmosphere" in Corrected invention 1 in a point that "the seal member is arranged between the hole to which the end member is fitted and the end member."

Thus, the corresponding features and the different features of Corrected invention 1 and the Cited Invention are as follows.

[Corresponding features]

"A solenoid fitted into a fitting hole provided in a counter housing member, includes:

a case member; a coil member stored in the case member; a center post member extending to an inner cylinder of the coil member; a plunger chamber positioned in the inner cylinder of the coil member and having a reciprocatively movable plunger therein; an upper plate arranged between the other opening end of the case member and the plunger chamber; an end member formed of a corrosion resistant material and fitted into a hole on the outside of the upper plate; a seal member arranged between the hole to

which the end member is fitted and the end member; and a rod connected to the plunger and capable of opening and closing a valve element of a valve."

[The different feature 1]

Corrected invention 1 is the solenoid stored in the fitting hole provided in the counter housing member. The case member is inserted into the fitting hole, the end member is hermetically fitted into the fitting hole to close the opening of the fitting hole, and the seal member is arranged between the fitting hole and the end member to prevent the entry of external atmosphere. Whereas, the Cited Invention is the solenoid of which a part is stored in the fitting hole provided in the counter housing member. Only a part of the case member is fitted into the fitting hole, and the end member is fitted into the hole provided in the head cover 21 that is not the fitting hole, and the seal member is arranged between the hole provided in the head cover 21 and the end member to prevent the entry of water from the outside of the head cover 21.

[The different feature 2]

In Corrected invention 1, the center post member is fixed to the inner side of one opening end of the case member. Whereas, in the Cited Invention, the center post member is not fixed to the inner side of the one opening end of the case member.

[The different feature 3]

In Corrected invention 1, the plunger chamber is surrounded by the bottomed cylindrical sleeve. Whereas, in the Cited Invention, it is not obvious whether the plunger chamber is surrounded by the bottomed cylindrical sleeve.

[The different feature 4]

In Corrected invention 1, the seal member to prevent the entry of fluid from the valve side is provided on an outer periphery of the valve side of the solenoid. Whereas, the seal member is not provided in the Cited Invention.

The different features are discussed.

Regarding the different feature 1, employment of the matters specifying the invention of Corrected invention 1 according to the different feature 1 to the Cited Invention is not described or mentioned in the Cited Document.

In addition, in Corrected invention 1, by employing the matters specifying the invention according to the different feature 1, the coil member stored in the case member, the center post member extending to the inner cylinder of the coil member, the bottomed cylindrical sleeve surrounding the plunger chamber positioned in the inner cylinder of the coil member, the plunger arranged in the plunger chamber, and the upper

plate arranged between the other opening end of the case member and the plunger chamber are not exposed outside. The entry of the external atmosphere (including moisture and fluid such as water) is prevented by engagement between the end member and the fitting hole and the seal member. Therefore, an effect can be obtained that corrosion resistance of the solenoid can be improved.

Consequently, it cannot be said that a person skilled in the art could have easily arrived at the conclusion that the matters specifying the invention of Corrected invention 1 according to the different feature 1 are employed in the Cited Invention.

Therefore, without examining the other different features, Corrected invention 1 is not the invention described in the Cited Document and cannot be easily made by a person skilled in the art based on the Cited Invention.

(3-2) Regarding Corrected inventions 2 and 3

Corrected inventions 2 and 3 are inventions which further restrict Corrected invention 1. Therefore, similarly, Corrected inventions 2 and 3 are not the invention described in the Cited Document and cannot be easily made by a person skilled in the art based on the Cited Invention.

(4) Summary

As described above, Corrected inventions 1 to 3 are not the invention described in the Cited Document and cannot be easily made by a person skilled in the art based on the Cited Invention.

Also, no other reasons can be found to conclude that Corrected inventions 1 to 3 should not be granted a patent independently at the time of filing of the patent application.

Therefore, Correction A to restrict the scope of claims falls under the provisions of Article 126(7) of the Patent Act.

No. 5 Closing

As described above, the correction according to the demand for trial is intended for the matters listed in Article 126(1)(i) of the Patent Act and falls under the provisions of Article 126(3), (5) to (7).

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

October 25, 2016

Chief administrative judge: HORIKAWA, Ichiro

Administrative judge: KUBO, Ryuichi

Administrative judge: FUJII, Noboru