

Judgment rendered on October 31, 2018;

The original was delivered on the same day; Court clerk Daisuke Kumagai
2018 (Wa) 98765 Case of Seeking Injunction against Patent Infringement

Date of conclusion of oral argument for the interim dispute: October 3, 2018

Interlocutory Judgment

Chiyoda Ward, Tokyo (hereafter omitted)

Plaintiff	Pony Co. Ltd.
Representative Director and CEO	Tomoko Osaka
Plaintiff's attorney	Yoichiro Komatsu

Setagaya-ku, Tokyo (hereafter omitted)

Defendant	Donkey Co. Ltd.
Representative Director and CEO	Yuko Fukuoka
Defendant's attorney	Makoto Hattori

Main Text

1 Product X, listed as Item 1 of the List of Defendant Products appended to this judgment, which is manufactured and sold by the Defendant, falls within the technical scope of the patented invention as claimed in Claim 1 of Patent No. 35811710 held by the Plaintiff. It is deemed that the patent should be invalidated by a trial for patent invalidation. Regarding Product X, re-defense of correction as described in the appended List of Correction stands.

2 Product Y, listed as Item 2 of the List of Defendant Products, which is manufactured and sold by the Defendant, falls within the technical scope of the patented invention as claimed in Claim 1 of Patent No. 35811710 held by the Plaintiff. It is deemed that the patent should be invalidated by a trial for patent invalidation.

Facts and reasons

No. 1 Claims

1 The Defendant shall neither manufacture nor sell Product X listed as Item 1 of the List of Defendant Products (hereafter, referred to as "Product X"), and Product Y listed as Item 2 of the appended List of Defendant Products (hereafter, referred to as "Product Y").

2 The Defendant shall dispose of Products X and Y.

3 The Defendant shall pay to Plaintiff 500 million yen, and a sum of

money calculated at a rate of 5% per annum from July 4, 2018, until completion of payment.

No. 2 Outline of the case

1 Gist of the case

The Plaintiff, who holds the patent right stated in 2.1 infra, alleges that production and sale of Products X and Y infringes this patent right.

The Plaintiff filed this action to seek (1) an injunction against the production and sale of Products X and Y by the Defendant and disposal of Products X and Y (Patent Act, Art. 100, Para 1 and 2), and (2) a payment of compensation for damages of 500 million yen, together with delayed damages from July 4, 2018, which is the next day after the illegal act, at a rate of 5% per year, as prescribed by the Civil Code (Civil Code, Art. 709, and Patent Act, Art. 102, Para 2), until payment is completed.

2 Facts on which the decision is premised (facts on which there is no dispute between the parties or the facts that can be easily determined by the evidence listed in the text)

2.1 Patent right concerned

The Plaintiff holds the following patent right (hereafter, referred to as "the Patent Right", and this patent is referred to as "the Patent").

Patent Number:	35811710
Title of the Invention:	Piston Compressor
Date of Application	(omitted)
Date of Registration:	November 21, 2007

2.2 The statement of the scope of the claims

The scope of claim 1 of the claims of the Patent is as follows (hereafter, the invention concerning claim 1 will be referred to as "the Patented Invention". Further, in accordance with the segmented elements of the Patented Invention, reference will be made according to the capital letters allocated to the element, such as "Element A". The specification and drawings attached to the application of the Patent will be referred to as "this Specification").

A: A piston compressor,

B: which has rotary valves(6), has rotary shafts(2) that are integrated with said rotary valves(6), and has a shaft hole(5) that accommodates said rotary valves(6) in a rotatable manner,

C: which causes pistons(4) to make reciprocal motions through swash plates(1) in accordance with the rotation of said rotary shaft(2),

D: said shaft hole(5) has, on its inner peripheral surface, the inlets of suction passages(13) to intake refrigerant into compression chambers(3),

E: said rotary valves(6) have, on their outer peripheral surfaces, the outlets of introduction passages(12) that intermittently communicate with the inlets of said suction passages(13) in accordance with the rotation of said rotary shafts (2),

F: the inner peripheral surface of said shaft hole(5) directly supports the outer peripheral surfaces of said rotary valves(6) and the clearance between them is set as less than 20 μ m.

2.3 Request for correction

In the procedure of the trial for patent invalidation (Invalidation 2018-9876) concerning the Patent, the Plaintiff filed a request for correction as described in the appended List of Correction (hereinafter referred to as "the Correction". The invention described in Claim 1 in the scope of claims of the Patent after the Correction is referred to as "Corrected Invention").

2.4 Conducts of Defendant

The Defendant has been manufacturing and selling Product Y from March 30, 2010, and Product X from May 5, 2015.

2.5 Satisfaction of Elements for Products X and Y

There is no dispute between the parties that Product X falls within the technical scope of the Patented Invention.

There is no dispute between the parties that Product Y satisfies Elements A to E.

2.6 The statement in the Written Opinion

The Plaintiff submitted a Written Opinion stating that "We believe that the reason for refusal indicated by the examiner should be resolved by the amendment of claim 1 to add the wording 'the clearance between them is set as less than 20 μ m'. The tilt of a rotary shaft(2) could be prevented if all clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surface of the rotary valves(6) is set as less than 20 μ m " when amending the claim 1 by adding 1 the wording "the clearance between them is set as less than 20 μ m", which consists of Element F.

3 Issues

The points in dispute subject to this interlocutory judgment are as follows:

- (1) Whether Product Y satisfies Element F
- (2) Whether the Patent lacks an inventive step based on patent gazette 34085 (hereinafter referred to as "Gazette 085") and patent gazette 63165 (hereinafter referred to as "Gazette 165")
- (3) Whether re-defense of correction stands for Product X

No. 3 Allegations of the parties as regards the points in dispute

1 Issue (1) (Whether Product Y satisfies Element F)

1.1 Plaintiff's allegation

1.1.1 Product Y satisfies Element F because the inner peripheral surface of the shaft hole directly supports the outer peripheral surfaces of the rotary valves, and the clearance between them is adjusted as less than 20 μ m.

There is a concave portion on the outer peripheral surfaces of the rotary valves of Product Y. However, Element F is merely stated as "the outer peripheral surfaces of the rotary valves(6)", and the existence of concave portion in part of the outer peripheral surfaces is not excluded. Therefore, it does not affect the above conclusion that Product Y satisfies Element F.

1.1.2 The Defendant alleges that "the clearance" of Element F should be interpreted as "all the clearance" based on the statement of the Written Opinion submitted by the Plaintiff in the patent application procedure.

However, Art. 70, Para 1 of the Patent Act states that the technical scope of the patented invention shall be determined based on the statements in the scope of the claims attached to the application. The wording of the scope of claims is "the clearance", not "all the clearance". Therefore, there is no reason to construe the wording "the clearance" as "all the clearance".

Furthermore, the Written Opinion stated that the tilt of the rotary shaft could be prevented if all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is set to less than 20 μ m, but it did not state that the tilt of the rotary shaft cannot be prevented unless all the clearance is set to less than 20 μ m. The Written Opinion does not deal with the matter of whether to set all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) to less than 20 μ m, or to make a part of the clearance less than 20 μ m in the first place. Therefore, it is obvious from the context of the Written Opinion that the statement "all the

clearance" should be interpreted as a predominant part of the cylindrical clearance, which does not intend to be interpreted as without exception.

It is obvious that the same effect with respect to preventing the tilt of the rotary shaft as in the case where all the clearance is less than 20 μ m can be obtained when a predominant part of the clearance is adjusted to less than 20 μ m, even if there is a concave portion in small fraction of the outer peripheral surfaces of the rotary valves as in Product Y.

Therefore, this Written Opinion shall not be regarded as intentionally excluding a product having a concave portion in a very small part of the outer peripheral surfaces of the rotary valves wherein predominant part of the clearance between the inner peripheral surface of the shaft hole and the outer peripheral surfaces of the rotary shafts is adjusted as less than 20 μ m, such as Product Y, from the technical scope of the Patented Invention.

1.2 Defendant's rebuttal

1.2.1 Element F stipulates that the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is less than 20 μ m, and there is no stipulation that "a predominant part of the clearance is set to less than 20 μ m".

Further, in rotary valve compressors, a moment that tilts a rotary shaft is generated by a reaction force when the refrigerant is compressed by the piston. There was a problem in the prior art of using rolling bearings that the production cost was expensive. Therefore, in the Patented Invention, the clearance between the inner peripheral surface of the shaft hole and the outer peripheral surfaces of the rotary valves is set precisely as less than 20 μ m to prevent the tilt of the rotary shaft instead of using rolling bearings. Hence, setting the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) to less than 20 μ m under Element F is an important configuration, which is a key for solving the problem.

Regarding such an important configuration, the Plaintiff stated in the Written Opinion that "if all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is set to less than 20 μ m, the tilt of the rotary shaft(2) can be prevented" (underline added by the Defendant), and thereby alleged that it is necessary to have "all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6), and

not just a part of the clearance, must be set as less than 20µm in order to prevent the tilt of the rotary shaft(2). In all the embodiments of this Specification, the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped, except for the outlets of the introduction passages(12).

Therefore, a person skilled in the art who was aware of the Written Opinion and this Specification would understand that Element F of the Patented Invention can be satisfied when the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12), and all the clearance between the outer peripheral surfaces of the rotary valves(6) and the inner peripheral surface of the shaft hole(5) is less than 20µm except for the outlets of the introduction passages(12), in which it is impossible to define clearances between the outer peripheral surfaces of the rotary valves(6) and the inner peripheral surface of the shaft hole(5). Thus, "the clearance" of Element F should be construed as "all the clearance".

Product Y has a concave portion on the outer peripheral surfaces of the rotary valves, and in the concave portion, the clearance with the inner peripheral surface of the shaft hole is greater than 20µm. Therefore, Product Y does not satisfy Element F that "the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valve(6) is set to less than 20µm".

1.2.2 The Plaintiff asserts that, even if there is a concave portion in a very small part of the outer peripheral surfaces of the rotary valves, the same effect as in the case where all the clearance is less than 20µm can be obtained for preventing the tilt of the rotary shaft when a predominant part of the clearance between the inner peripheral surface of the shaft hole and the outer peripheral surface of the rotary shaft is adjusted to less than 20µm..

However, Element F defines not the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surface of the rotary shaft(2), but the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6). Therefore, alleging the effect based on the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surface of the rotary shaft(2) does not constitute an allegation of the effect of the Patented Invention.

2 Issue (2) (Whether the Patent lacks an inventive step based on Gazette 085 and Gazette 165?)

2.1 Defendant's allegation

2.1.1 In Gazette 085, which is a publication distributed prior to the filing of the Patent, the Main Cited Invention 1 is described as follows.

"A': A piston compressor,

B': which has a rotary shaft(2) and a shaft hole(5) accommodating said rotary shaft(2) in a rotatable manner,

C': which causes pistons(4) to make reciprocal motions through a swash plate(1) in accordance with the rotation of said rotary shaft(2),

F': the inner peripheral surface of said shaft hole(5) directly supports the outer peripheral surface of said rotary shaft(2), and the clearance between them is set as less than 20µm. "

2.1.2 Comparing the Patented Invention with the Main Cited Invention 1, they differ with respect to the following Difference 1. This Difference 1 arises from the fact that the Patented Invention is a rotary valve compressor, whereas the Main Cited Invention 1 is a reed valve compressor.

(Difference 1)

"Whereas the Patented Invention has rotary valves(6), has rotary shaft(2) that is integrated with the rotary valves(6) and has a shaft hole(5) that has, on the inner peripheral surface, the inlets of suction passages(13) to intake refrigerant into compression chambers(3), said rotary valves(6) have, on the outer peripheral surfaces, the outlets of introduction passages(12) that intermittently communicate with the inlets of said suction passages(13) in accordance with the rotation of said rotary shafts(2), and the inner peripheral surface of said shaft hole(5) directly supports the outer peripheral surfaces of said rotary valves(6)."

On the other hand, Main Cited Invention 1 does not have rotary valves so that a rotary shaft(2) is not integrated with rotary valves, its shaft hole(5) does not have, on the inner peripheral surface, the inlets of suction passages to intake refrigerant into the compression chambers(3), and the inner peripheral surface of said shaft hole(5) directly supports the outer peripheral surfaces of said rotary shafts(2)".

2.1.3 In Gazette 165, which is a publication distributed prior to filing of the Patent, the following Sub Cited Invention 1 is described. This Sub Cited Invention 1 is a rotary valve compressor, and has all the elements of the

Patented Invention related to Difference 1:

"A": A piston compressor,

B": which has rotary valves(6), rotary shafts(2) integrated with said rotary valves(6), and a shaft hole(5) accommodating said rotary valves(6) in a rotatable manner,

C": which causes pistons(4) to make a reciprocal motion via swash plates(1) in accordance with the rotation of said rotary shafts(2),

D": wherein said shaft hole(5) has, on its inner peripheral surface, inlets of suction passages(13) to intake refrigerant into compression chambers(3), and

E": said rotary valves(6) have, on their outer peripheral surfaces, outlets of introduction passages(12) that intermittently communicate with the inlets of the suction passages(13) in accordance with the rotation of said rotary shafts(2)."

2.1.4 Paragraph [0049] of Gazette 085 in which the Main Cited Invention 1 is described states that the invention of Gazette 085 can be applied to the rotary valve compressor of Gazette 165 by explicitly citing Gazette 165 in which the Sub Cited Invention 1 is described.

Therefore, a person skilled in the art could easily conceive that the rotary valve compressor of the Sub Cited Invention 1 could be applied in order to arrive at the configuration of Patented Invention related to Difference 1 replacing the reed valve compressor of Main Cited Invention 1, in accordance with the suggestion disclosed in Gazette 085.

2.1.5 As described above, the Patented Invention can easily be invented by a person skilled in the art based on Gazettes 085 and 165, and since it lacks inventive step, the Patent should be invalidated by a trial for patent invalidation.

Therefore, the Plaintiff cannot exercise this Patent Right.

2.1.6 The Plaintiff alleges that, on the premise of the Defendant's assertion (1.2 supra) that the configuration comprising the concave portion on the outer peripheral surfaces of the rotary valves does not satisfy Element F of the Patented Invention, it is not possible to arrive at the configuration of the Patented Invention by applying the Sub Cited Invention 1 to the Main Cited Invention 1 because there would be a concave portion on the outer peripheral surfaces of the rotary valves.

However, there would be no concave portion on the outer peripheral

surfaces of the rotary valves when the configuration of the rotary valves of the Sub Cited Invention 1 was applied to the Main Cited Invention 1 because there is no concave portion on the outer peripheral surfaces of the rotary valves of the Sub Cited Invention 1.

2.2 Plaintiff's rebuttal

2.2.1 In paragraph [0049] of the specification of Gazette 085, it is merely stated that "a system in which a concave portion is formed on the outer peripheral surfaces of rotary shafts and a high-pressure gas is introduced into the concave portion" ([0007]) is also applicable to a rotary valve compressor. Therefore, this statement merely suggests to apply the invention described in Gazette 085 to rotary valve compressors as starting points, and there is no suggestion to apply the Sub Cited Invention 1 which is a rotary valve compressor to the Main Cited Invention 1 described in Gazette 085 as a starting point.

Furthermore, no motivation can be found for applying the rotary valve compressor of the Sub Cited Invention 1 instead of a reed valve compressor in the Main Cited Invention 1 other than the description of the paragraph [0049]. In addition, the technical concepts of the Main Cited Invention and the Sub Cited Invention are entirely different where the Main Cited Invention 1 is configured to provide a concave portion on the outer peripheral surfaces of the rotatory shafts instead of rolling bearings to prevent tilt of the rotary shaft due to a compression reaction force, whereas the Sub Cited Invention 1 adopts a conventional configuration using rolling bearings.

Therefore, it would not be easy for a person skilled in the art to conceive of applying the rotary valve compressor of the Sub Cited Invention 1 instead of the reed valve compressor of the Main Cited Invention 1 by looking at Gazettes 085 and 165.

2.2.2 The Defendant alleges in 1.2 supra that the configuration in which there is a concave portion on the outer peripheral surfaces of the rotary valves does not satisfy Element F of the Patented Invention. On this premise of the Defendant's assertion, there would be a concave portion on the outer peripheral surfaces of the rotary valves even if the Sub Cited Invention 1 were applied to the Main Cited Invention 1 based on the description of paragraph [0049] of Gazette 085, which would not lead to the Patented Invention.

3 Issue (3) (Whether re-defense of correction stands for Product X)

3.1 Plaintiff's allegation

3.1.1 The Plaintiff made the Correction described in 2.3 of No. 2 supra.

With regard to the Correction, the shape of the outer peripheral surfaces of the rotary valves(6) has been limited to be cylindrical except for the outlets of the introduction passages(12), which was not limited before the Correction. Thus, the Correction is aiming for "restriction of the scope of claims " (Art. 134-2, Para 1 (Proviso 1) of the Patent Act).

In the drawings attached to the application of the Patented Invention, a rotary valve compressor is described wherein the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passage(12), so the Correction has been made within the scope of the matters described in the drawings attached to the application.

The Correction also meets other requirements for correction, and is lawful.

3.1.2 The rotary shaft(2) of the Main Cited Invention 2 shall be recognized as "E" the concave portion(8) is provided on the outer peripheral surface of the rotary shaft(2)" , by recognizing the Main Cited Invention 2 based on Gazette 085 in accordance with the Corrected Invention."

By comparing the Corrected Invention with the Main Cited Invention 2, there is also the following Difference 2 in addition to Difference 1.

(Difference 2)

"In the Corrected Invention, the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12), whereas in the Main Cited Invention 2, there is a concave portion(8) on the outer peripheral surfaces of the rotary shafts(2). "

Furthermore, in the Main Cited Invention 2, the concave portion(8) on the outer peripheral surface of the rotary shaft(2) is an essential structure in the problem solving means of preventing the tilt of the rotary shaft(2) due to the compression reaction force without using rolling bearings, and it cannot be excluded.

In addition, it cannot be inferred that a configuration wherein the outer peripheral surfaces of the rotary shafts are cylindrically shaped except for the outlets of the introduction passages is suggested in the paragraph [0049] of the specification of Gazette 085, because it merely describes that "a system wherein a concave portion is formed on the outer peripheral surface of a rotary shaft and high pressure gas is introduced into the concave portion"

[0007] described in Gazette 085 can be also applied to a rotary valve compressor, as described in 2.2.1 supra..

Therefore, there is no suggestion of applying the Sub Cited Invention 2 to the Main Cited Invention 2 in paragraph [0049] of Gazette 085, and apart from this statement, no motivation could be found for applying the rotary valve compressor of the Sub Cited Invention 2 instead of the reed valve compressor of the Main Cited Invention 2, although the Defendant asserts that the outer peripheral surfaces of the rotary valves(6) in the Sub Cited Invention 2 can be recognized to be cylindrically shaped except for the outlets of the introduction passages(12).

As a consequence, a person skilled in the art could not easily arrive at the configuration of the Corrected Invention relating to Difference 2 by applying the Sub Cited Invention 2 to the Main Cited Invention 2 by looking at Gazettes 085 and 165.

3.1.3 Since the outer peripheral surfaces of the rotary valves of Product X are cylindrical except for the outlets of the introduction passages, Product X satisfies Element E of the Corrected Invention, and falls within the technical scope of the Corrected Invention.

3.2 Defendant's rebuttal

3.2.1 In the drawings of Gazette 165, a rotary valve compressor in which the outer peripheral surfaces of rotary valves(6) are cylindrically shaped except for the outlets of introduction passages(12) is described. By recognizing the Sub Cited Invention 2 in accordance with the configuration of the Corrected Invention, the outer peripheral surfaces of the rotary valves(6) of the Sub Cited Invention 2 shall be recognized as follows:

"E"" The rotary valves(6), on their outer peripheral surfaces, have outlets of introduction passages(12) that intermittently communicate with inlets of suction passages(13) in accordance with the rotation of the rotary shafts(2), and the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12)."

3.2.2 The configuration of the Corrected Invention relating to Difference 2 wherein the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12) can be obtained by applying the Sub Cited Invention 2 to the Main Cited Invention 2. A person of ordinary skill in the art who is aware of Gazette 085 could easily conceive of applying the rotary valve compressor of the Sub Cited

Invention 2 to replace the reed valve compressor of the Main Cited Invention 2, as in 2.1.4 supra.

3.2.3 Therefore, the grounds for invalidation are not eliminated because the configuration of the Corrected Invention relating to Difference 2 is easily conceivable by applying the Sub Cited Invention 2 to the Main Cited Invention 2. Thus, the re-defense of correction does not stand.

4 Judgment of the Court

1 Issue(1) (Whether Product Y satisfies Element F)

1.1 Interpretation of Element F

Element F states that "the inner peripheral surface of the shaft hole(5) directly supports the outer peripheral surfaces of the rotary valves(6), and the clearance between them was set to be less than 20 μ m". It describes that the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is intended to be less than 20 μ m, and there is no statement of "all the clearance" must be set to 20 μ m or less.

In this specification, it is stated that "the Inventor recognized it is indispensable to precisely adjust the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6), and surprisingly, discovered that its expansion could be mitigated without using rolling bearings if the clearance were set as 20 μ m or less"([0005]). It is described that if "the clearance" between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is set as 20 μ m or less, it is possible to mitigate its expansion, and there is no statement that "all the clearance" must be set as 20 μ m or less.

Furthermore, in this specification, it is stated that even if the outlets of the introduction passages(12) are on the outer peripheral surfaces of the rotary valves(6), the effect of the Patented Invention of preventing the tilt of the rotary shaft(2) can be obtained if other than that portion of the clearance is set to less than 20 μ m.. Therefore, we recognize that the same effect can be obtained when a predominant part of the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is less than 20 μ m, even if all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is not less than 20 μ m.

As a consequence, "the clearance" of Element F does not necessarily mean all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6).

On the contrary, the Defendant asserts that "the clearance" of Element F should be construed as "all the clearance" based on the Written Opinion filed by the Plaintiff in the procedure of patent application.

However, according to the evidence, it is recognized that, (1) there was no statement of "the clearance was set as 20 μ m or less" of Element F in the scope of claim 1 of the original application of the Patent, and there was no restriction on the degree of clearance between the inner peripheral surface of the shaft hole 5 and the outer peripheral surfaces of the rotary valves 6 (evidence omitted), (2) the Plaintiff, in the process of patent application, received notice of reasons for refusal from the Patent Office Examiner to the effect that "the invention for which a patent is claimed is not explained in the specification because the specification only shows the invention wherein the clearance is to be set as 20 μ m or less" (evidence omitted), and (3) the Plaintiff submitted a Written Opinion stating that "We believe that the reason for refusal indicated by the examiner should be resolved by a correction to add to claim 1 the language 'the clearance between them is set as less than 20 μ m'. And the tilt of a rotary shaft(2) could be prevented if all clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surface of the rotary valves(6) is set as less than 20 μ m " when the Plaintiff amended the scope of claim by adding "the clearance was set to 20 μ m or less" (2.2.6 supra). It is clear that the wording "all the clearance" in the Written Opinion (hereafter, "this Wording") in relation to the setting of the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) to less than 20 μ m, does not discriminate between "all" or "part" thereof from the context of the wording and the events leading up to submission of the Written Opinion. Therefore, we recognize that this Wording in the Written Opinion did not intentionally exclude configurations other than those where all the clearance between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) is less than 20 μ m.

1.2 Whether Element F of Product Y is satisfied

As described under Item 2 of the List of Defendant Product appended hereto, although there is a concave portion on the outer peripheral surfaces of the

rotary valves of Product Y, the inner peripheral surface of the shaft hole directly supports the outer peripheral surfaces of the rotary valves and the clearance between them, except for the outlets of the introduction passages and the concave portion, is 20µm or less. There is only one concave portion provided on the cross section A-A' substantially opposite to the outlets of the introduction passages, and the size of its opening on the outer peripheral surfaces is substantially the same as the outlets of the introduction passages.

As described in 1.1 supra, it is stated in this specification that even if the outlets of the introduction passages(12) are on the outer peripheral surfaces of the rotary valves(6), the effect of the Patented Invention can be obtained if other than that portion of clearances are less than 20µm. Therefore, it can easily be understood by a person skilled in the art that the same effect can be obtained when a concave portion having substantially the same size of opening on the outer peripheral surfaces as the outlets of the introduction passages(12) is provided on the cross-section A-A' substantially opposite to the outlets of the introduction passages(12) in addition to the outlets of the introduction passages(12). Moreover, it does not conflict with the Element F, which states that "the clearance" between the inner peripheral surface of the shaft hole(5) and the outer peripheral surfaces of the rotary valves(6) "was set as less than 20µm", by having such concave portion.

Therefore, it is deemed that Product Y satisfies Element F.

2 Issue(2) "Whether the Patent lacks an inventive step based on Gazettes 085 and 165"

2.1 Determination of Main Cited Invention 1

2.1.1 The description and drawings of Gazette 085 (hereafter referred to as "085 Specification"), which is a publication distributed prior to filing the Patent, has the following descriptions (evidence omitted).

[0007] The invention adopts a system in which a concave portion(8) is formed on the outer peripheral surface of the rotary shaft(2), and high pressure gas is introduced into the concave portion(8).

[0008] In the invention, the moment (M), which is generated on the rotary shaft(2) is offset by the opposition force (F) applied to the rotary shaft(2) by the high pressure gas. Therefore, the rotary shaft(2) is not firmly pressed against the shaft hole(5) without using rolling bearings.

[0020] The invention can reduce production costs because it does not use

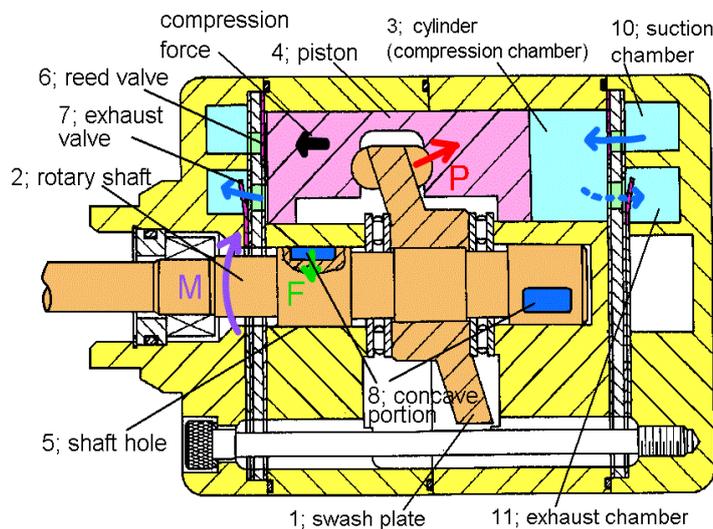
rolling bearings.

[0048] The size of the concave portion(8) is designed appropriately in accordance with the moment (M) acted on the rotary shaft(2) in order to ensure the smooth rotation of the rotary shaft(2).

[0049] This invention can also be applied to rotary valves of a compressor in which rotary valves are disposed in a portion corresponding to rotary shafts, as disclosed, for example, in Patent Gazette No. 63165 (Gazette 165).

[0058] It is preferable that the width of the clearance is adjusted, for example, being less than 20 μ m, between the inner peripheral surface of the shaft hole(5) and the outer peripheral surface of the rotary shaft(2).

【Drawing of Main Cited Invention】



2.1.2 According to 2.1.1 supra, it is recognized that Gazette 085 describes the Main Cited Invention 1 as follows.

"A': A piston compressor (reed valve type compressor),

B': which has a rotary shaft(2), and a shaft hole(5) that accommodates said rotary shaft(2) in a rotatable manner,

C': which causes the piston(4) to make a reciprocal motion via the swash plates(1) in accordance with the rotation of the rotary shaft(2),

F': the inner peripheral surfaces of the shaft hole(5) directly supports the outer peripheral surfaces of the rotary shafts(2), and the clearance between them is set as less than 20 μ m."

2.2 Determination of differences between the Patented Invention and

Main Cited Invention 1

Comparing the Main Cited Invention 1 in 2.1.2 supra with the Patented Invention, they differ with respect to the following Difference 1. Difference 1 is considered to be derived from the fact that the Patented Invention has the configuration of a rotary valve compressor, whereas the Main Cited Invention 1 is a reed valve type compressor.

(Difference 1)

"The Patented Invention has a rotary valves(6), has a rotary shaft(2) that is integrated with said rotary valves(6) and has a shaft hole(5) that has, on the inner peripheral surface, the inlets of suction passages(13) to take refrigerant into compression chambers(3), said rotary valves(6) have, on the outer peripheral surfaces, the outlets of introduction passages(12) that intermittently communicate with the inlets of the suction passages(13) in accordance with the rotation of said rotary shaft(2), and the inner peripheral surfaces of said shaft holes(5) directly support the outer peripheral surfaces of the rotary valves(6)"

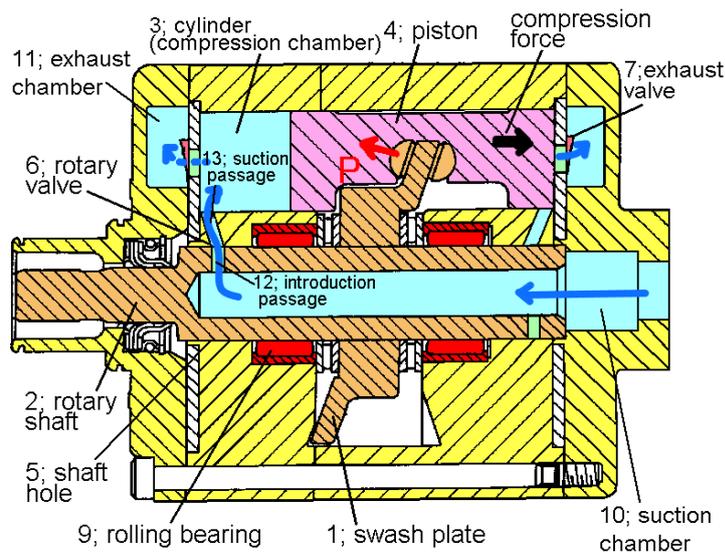
On the other hand, the Main Cited Invention 1 does not have rotary valves so that the rotary shaft(2) is not integrated with the rotary valves, its shaft hole(5) is does not have, on their inner peripheral surface, the inlets of suction passages to intake refrigerant into the compression chamber(3) and the inner peripheral surface of said shaft hole(5) directly supports the outer peripheral surfaces of the rotary shaft(2)".

2.3 Determination of Sub Cited Invention 1

2.3.1 In the specification and drawings of Gazette 165 which is a publication distributed prior to the filing of the Patent, there is the following description (evidence omitted).

(Specification omitted)

【Drawing of Sub Cited Invention】



2.3.2 According to 2.3.1 supra, it is recognized that the following Sub Cited Invention 1 is described in Gazette 165. It is recognized that the Sub Cited Invention 1 is a rotary valve compressor, and has all the elements corresponding to the Patented Invention related to Difference 1.

"A": A piston compressor (rotary valve compressor)

B": which has rotary valves(6), has a rotary shaft(2) that is integrated with said rotary valves(6), and a shaft hole(5) that accommodates said rotary valves(6) in a rotatable manner,

C": which causes pistons(4) to make reciprocal motions through swash plate(1) in accordance with the rotation of said rotary shaft(2),

D": said shaft hole(5) has, on the inner peripheral surface, the inlets of suction passages(13) for intake of refrigerant into a compression chambers(3),

E": said rotary valves(6) have, on the outer peripheral surfaces, the outlets of introduction passages(12) that intermittently communicate with the inlets of said suction passages(13) in accordance with the rotation of said rotary shaft(2)."

2.4 Whether Sub Cited Invention 1 can be applied to Main Cited Invention 1

As described in 2.1.1 supra, it is stated in paragraph [0049] of Gazette 085 that a concave portion can be provided not only on the outer peripheral surfaces of the rotary shafts of a reed valve compressor, but also on the outer peripheral surfaces of the rotary valves of a rotary valve compressor, with explicitly citing Gazette 165 in which the Sub Cited Invention 1 is described.

Then, it is recognized that a person skilled in the art who was aware of

Gazette 085 would have been motivated to apply the rotary valve compressor of the Sub Cited Invention 1 to replace the reed valve compressor of the Main Cited Invention 1 in accordance with the suggestion of the above description.

2.5 Whether the defense of invalidity stands

According to the above, the Patented Invention can be easily conceived by those skilled in the art based on Gazettes 085 and 165.

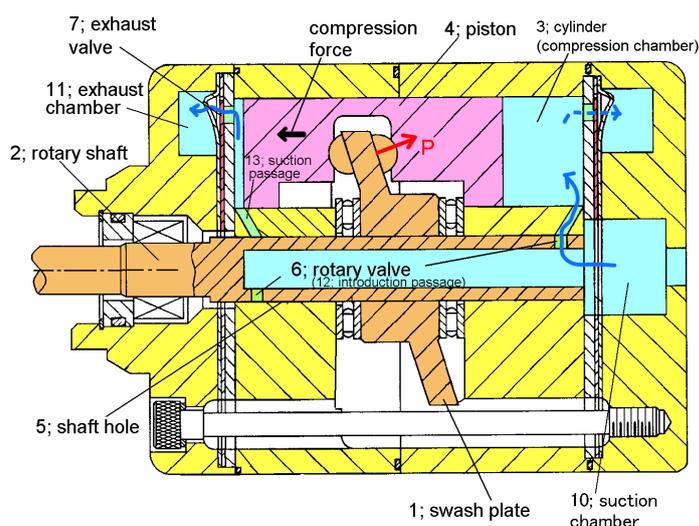
3 Issue (3) (Whether re-defense of correction stands for Product X)

3.1 A lawful correction was requested

3.1.1 There is no dispute between the parties that plaintiff has filed a request for the Correction (2.3 of No.2 supra).

3.1.2 The drawings attached to the application of the Patent are as follows (evidence omitted).

【Drawing of the Patented Invention】



3.1.3 In the Correction, the shape of the outer peripheral surfaces of the rotary valves(6), has been limited to be cylindrical except for the outlets of the introduction passages(12),which was not limited before the Correction. Therefore, the Correction was requested aiming for "restriction of the scope of claims" (Art. 134-2, Para 1 (Proviso 1) of the Patent Act).

Since it is recognized that a rotary valve compressor wherein the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12) is described in the drawings attached to the application of the Patent according to 3.1.2 supra, the

Correction was requested within the scope of the matters disclosed in the drawings attached to the application (Art. 134-2, Para 9, Art. 126, Para 5 of the said Act). This Correction is recognized to satisfy other correction requirements, and it is lawful.

3.2 Products falling within the scope of claims after correction

There is no dispute between the parties that Product X satisfies Elements A to D, and F (2.4 of No.2 supra).

Also, as shown under Item 1 of the List of Defendant's products attached hereto, the outer peripheral surfaces of the rotary valves of Product X are cylindrically shaped except for the outlets of the introduction passages.

Therefore, Product X is recognized to satisfy Element E after Correction.

According to the above, Product X falls within the technical scope of the Corrected Invention.

3.3 Elimination of grounds for invalidation by correction

3.3.1 Determination of Main Cited Invention 2

A cited invention to be compared with the Corrected Invention shall be determined according to Gazette 085. The Main Cited Invention 2 is described in Gazette 085 as follows according to 2.1.1 supra. This invention is the same as the Main Cited Invention 1 in 2.1.2 supra, except for Element E''':

"A': A piston compressor (reed valve compressor)

B': which has a rotary shaft(2), and has a shaft hole(5) that accommodates said rotary shaft(2) in a rotatable manner,

C': which causes piston(4) to make reciprocal motions through swash plates(1) in accordance with the rotation of said rotary shaft(2),

E''': wherein a concave portion(8) is provided on the outer peripheral surface of said rotary shaft(2), and

F': the inner peripheral surface of said shaft hole(5) directly supports the outer peripheral surface of said rotary shaft(2), and the clearance between them is set as less than 20 μ m."

3.3.2 Determination of differences between the Corrected Invention and Main Cited Invention 2

Comparing the Main Cited Invention 2 in 3.3.1 supra with the Corrected Invention, they differ with respect to the following Difference 2 in addition to Difference 1 in 2.2 supra.

(Difference 2)

"Whereas in the Corrected Invention, the outer peripheral surfaces of the

rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12), in the Main Cited Invention 2, there is a concave portion(8) on the outer peripheral surfaces of the rotary shaft(2)"

3.3.3 Determination of Sub Cited Invention 2

According to 2.3.1 supra, it is recognized that the Sub Cited Invention 2 is described in Gazette 165 as follows. This invention is identical to the Sub Cited Invention 1 in 2.3.2 supra, except for the Element E''''.

"A": A piston compressor (rotary valve compressor)

B": which has rotary valves(6), a rotary shaft(2) that is integrated with said rotary valves(6), and has a shaft hole(5) which accommodates said rotary valves(6) in a rotatable manner,

C": which causes pistons(4) to make reciprocal motions through swash plates(1) in accordance with the rotation of said rotary shafts(2),

D": said shaft hole(5) has, on the inner peripheral surface, the inlets of suction passages(13) for intake of refrigerant into compression chambers(3),

E''': said rotary valves(6) have, on the outer peripheral surfaces, the outlets of introduction passages(12) that intermittently communicate with the inlets of said suction passages(13) in accordance with the rotation of said rotary shafts(2), and said outer peripheral surface of said rotary valves(2) are cylindrically shaped except for the outlets of the introduction passages(12)."

3.3.4 Whether Sub Cited Invention 2 can be applied to Main Cited Invention 2

As in 2.1.1 supra, although paragraph [0049] of the specification of Gazette 085 explicitly cites Gazette 165 which describes the Sub Cited Invention 2, it merely states that a concave portion can be provided on the outer peripheral surfaces of the rotary valves of a rotary valve compressor. Consequently, it cannot be said there is a suggestion to apply the rotary valves(6) and the rotary shaft(2) of the Sub Cited Invention 2 wherein the rotary valves(6) do not have concave portions on the outer peripheral surface and the rotary shaft(2) integrated with the rotary valves(6) to replace the rotary shafts(2) of the Main Cited Invention 2 which have a concave portion(8) on the outer peripheral surfaces in paragraph [0049] of the Specification of Gazette 085.

Furthermore, no motivation can be found for applying the Sub Cited Invention 2 to the Main Cited Invention 2 other than this description.

3.3.5 Summary

According to the above, a person skilled in the art could not easily conceive

of the Corrected Invention based thereon even if he were aware of Gazettes 085 and 165.

Therefore, we determine that the grounds for invalidation due to lack of an inventive step based on Gazettes 085 and 165 is thereby eliminated.

3.4 Whether re-defense stands

Therefore, we determine that re-defense of correction consisting of the correction described in the appended List of Correction stands for Product X.

4 Conclusion

According to the above, as regards Product X, (1) there is no dispute between the parties that it falls within the technical scope of the Patented Invention (2.5 of No. 2 supra), (2) although we determine that the Patent should be invalidated by a patent invalidation trial (2 supra), (3) re-defense of correction consisting of correction described in the appended List of Correction, stands (3 supra). There is a need for further examination as regards calculation of the amount of damages pertaining to the claim for damages. On the other hand, as regards Product Y, (1) although it falls within the technical scope of the Patented Invention (1 supra), (2) it is deemed that the Patented Invention should be invalidated by a patent invalidation trial (2 supra), and (3) re-defense of correction has not been asserted, and therefore, it does not infringe the Patent Right.

Therefore, an interlocutory judgment is given as stated in the Main Text.

Tokyo District Court Moot Court Special Division

Presiding Judge	Makiko Takabe
Judge	Ayako Morioka
Judge	Ken Furusho

(Appendix)

List of Defendant Products

1 Product X

1.1 Model

DNK-301

1.2 Configuration

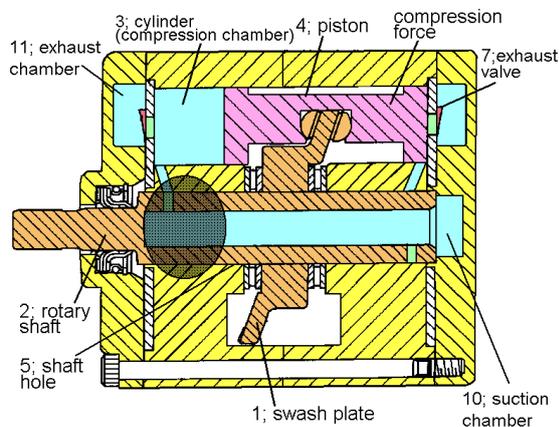
The overall structure is as shown in the drawing of overall structure in 1.3 below. Shaded parts of the drawing of overall structure are as shown in the drawing of individual structures (Product X) in 1.3 below.

The shape of the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages. The inner peripheral surface of the shaft hole(5) directly supports the outer peripheral surfaces of the rotary valves(6). The clearance between the outer peripheral surfaces of the rotary valves(6) and the inner peripheral surface of the shaft hole(5) is less than 20 μ m, except for the outlets of the introduction passages.

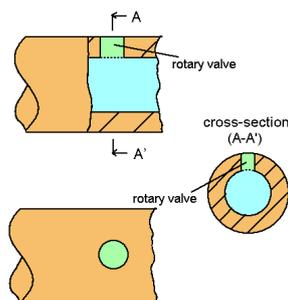
(Hereafter omitted)

1.3 Drawings

【Drawing of overall structure】



【Drawing of Individual Structures (Product X)】



2 Product Y

2.1 Model

DNK-220

2.2 Structure

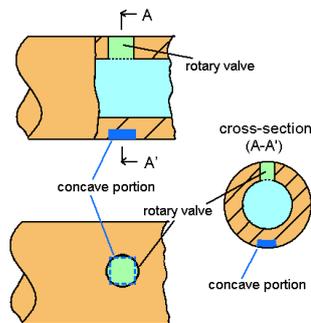
The overall structure is as shown in the drawing of overall structure in 1.3 supra. Shaded parts of the drawing of overall structure are as shown in the drawing of individual structures (Product Y) in 2.3 below.

The shape of the outer peripheral surfaces of the rotary valves(6) are substantially cylindrical except for the outlets of the introduction passages, but there are concave portions for introducing high pressure gas in one part. The size of the opening on the outer peripheral surfaces of the concave portion is substantially the same as the outlets of the introduction passages. The inner peripheral surface of the shaft hole(5) directly supports the outer peripheral surfaces of the rotary valves(6). The clearance between the outer peripheral surfaces of the rotary valves(6) and the inner peripheral surface of the shaft hole(5) is less than 20 μ m, except for the outlets of the introduction passages and the concave portion.

(Hereafter omitted)

2.3 Drawings

【Drawing of Individual Structures (Product Y)】



(Appendix)

List of Correction

Immediately after the term "comprising the outlet of the introduction passage(12)" of Claim 1 of the scope of the claims of the Patent, the wording, "the outer peripheral surfaces of the rotary valves(6) are cylindrically shaped except for the outlets of the introduction passages(12)" is added.