Patent Right	Date	February 27, 2025	Court	Intellectual Property High Court, Second Division
	Case number	2024 (Gyo-Ke) 10013		
- A case in which the court ruled that there is an error in the determination made by the JPO to the effect that the correction of the patent for an invention titled, "Die for a wire rod having a polygonal cross-section," conforms to the correction requirements, and the court approved the request for the correction of claims and rescinded the JPO decision in which the request for trial for invalidation was determined to be groundless.				

Case type: Rescission of Trial Decision to Maintain

Result: Granted

References: Article 134-2, paragraph (9) and Article 126, paragraph (5) of the Patent Act.

Related rights, etc.: Patent No. 6031654

Decision of the JPO: Invalidation Trial No. 2020-800043

Summary of the Judgment

1. This is a case of seeking the rescission of the JPO decision concerning the patented invention for an invention titled, "Die for a wire rod having a polygonal cross-section," where the JPO approved the correction in question (the "Correction") and determined that the request for a trial for patent invalidation is groundless. Conformance to the correction requirements (Article 134-2, paragraph (9) and Article 126, paragraph (5) of the Patent Act; addition of a new matter) and other issues were disputed.

2. Concerning the "substantially polygonal shape" of the cross-sectional shape of the opening for the bearing of the drawing die, Correction 1, etc. (corrected matters 1 and 3 through 5) are to add matter C-2 "wherein the substantially polygonal shape is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature" and to replace the "curved line" in Invention 6 with a "circular arc."

3. The JPO Decision determined as follows and approved the conformity to the correction requirements: Correction 1, etc. specifically specifies and limits the polygonal cross-sectional shape of the opening for the bearing unit of the drawing die; therefore, it aims to restrict the claims (item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act); and in light of the statements in the embodiment example in the Description, matter C-2 is not considered to introduce a new technical

matter.

4. This judgment determined that the Correction introduced a new technical matter (Article 134-2, paragraph (9) and Article 126, paragraph (5) of the Patent Act) and there was an error in the aforementioned determination in the JPO Decision. The outline of the judgment is as stated below.

The Description discloses the technical idea that, if one or more "corners" of the substantially polygonal cross-sectional shape of the drawing die are replaced with a circular arc, it prevents powdery lubricant from gathering in one place in the space between the drawing die and the material wire rod, and even if a lump is formed, the lump falls off more easily. However, there is no explanation of the developmental mechanism and principle of the effect. As an embodiment example, only the following facts are disclosed: in cases where [i] the finished wire rod by drawing is a rod material, [ii] the rod material has a quadrilateral cross-section, and [iii] in cases where the length of one side of the rod material to be created is 4 mm, [iv] if the corners of the opening for the die are "rounded" shapes by connecting them with a circular arc with an approximately 0.8 mm radius of curvature, lumps of lubricant are less likely to be formed. Regarding the numerical value of the length of a side (4 mm) and numerical value of radius of curvature of a circular arc (approximately 0.8 mm) that are adopted in the embodiment example in question (the "Embodiment Example"), the existence of the technical meaning of their combination and the degree of the effect are not clear.

In matter C-2, the "corner" of said polygonal shape is replaced with "a circular arc with at least a 0.8 mm radius of curvature" regardless of the form and type of the polygonal shape that is a cross-sectional shape and the degree of the length of a side, and the radius of curvature of the circular arc is set at "0.8 mm at minimum" and the circular arc is not limited to that of an inscribed circle. However, there are no statements or suggestions in the Description concerning the technical meaning of the numerical value of "an approximately 0.8 mm" radius of curvature of a circular arc that is adopted in the Embodiment Example. The Embodiment Example only replaces a corner of a substantially quadrilateral having a side length of 4 mm with the circular arc of an inscribed circle. There are no statements in the Description concerning the technical meaning to set the minimum value of the radius of curvature of a circular arc with which a corner is replaced to be "0.8 mm" regardless of the form and type of the polygonal shape, the degree of the length of a side, and the position of the center of the circular arc. In addition, matter C-2 does not specify and limit the form and the side length of the basic polygonal shape, which is a cross-sectional shape. On the other hand, the Embodiment Example is based on the assumption that the rod material to be drawn has

a quadrilateral cross-section and a side of the rod material to be created is 4 mm. In the Description, there is no embodiment example other than the Embodiment Example and there is no general explanation concerning the technical meaning of combining the numerical values of the Embodiment Example or concerning the developmental mechanism and principle of effects of the Invention. Consequently, concerning a circular arc which replaces a "corner," it cannot be found that the Description discloses a structure wherein if it is a "circular arc with a 0.8 mm or larger radius" of minimum curvature, the effect of the invention can be obtained regardless of the length of a side and the position of the center of the circular arc. Based on the above, it should be said that matter C-2 introduces a new technical matter in relation to the original statements in the Description.

Consequently, the Correction cannot be said to be a correction made within the scope of the matters indicated in the Description.

Judgment rendered on February 27, 2025
2024 (Gyo-Ke) 10013 Case of seeking rescission of the JPO decision
Date of conclusion of oral argument: December 18, 2024

Judgment

Plaintiff: Chugokukanaamikougyo Corporation

Defendant: Nobuhara Co., Ltd.

Main text

1. The decision made by the Japan Patent Office (JPO) on January 9, 2024, concerning the case of Invalidation Trial No. 2020-800043, shall be rescinded.
2. The Defendant shall bear the court costs.

Facts and reasons

No. 1 Claim

Same as the main text.

No. 2 Outline of the case

1. Summary of the case

This is a lawsuit to seek rescission of a trial decision made by the JPO to approve a request for correction of the patent claims and determine that a request for trial for patent invalidation is groundless. The issues are whether there were any errors in the JPO's findings and determination as to conformance to the correction requirements, the description requirements (support requirements, clarity requirements), and an inventive step.

2. Developments, etc. in procedures at the JPO

(1) Concerning the invention titled "Die for a wire rod having a polygonal cross-section," the Defendant filed a patent application (priority date: September 7, 2014) on September 6, 2015, and the establishment of the patent was registered on November 4, 2016 (Patent No. 6031654; Number of claims: 16; referred to below as the "Patent"; Exhibit Ko 28).

(2) The Plaintiff filed an opposition to a granted patent concerning the Patent on May 12, 2017 (Case of Opposition No. 2017-700464). The Defendant requested a correction of the patent claims [1 through 6], [7 through 12], and [13 through 16] (Exhibits Ko 24 and 25) based on the written correction request dated May 1, 2018.

The JPO approved the correction including deletion of Claim 13 as of January 30, 2019, revoked the patent related to Claims 14 through 16, maintained the patent related

to Claims 1 through 12, and decided to reject the opposition to a granted patent concerning the patent related to Claim 13 (Exhibit Ko 30). Said decision became final and binding (as a result, the number of claims for the Patent became 12).

(3) The Plaintiff requested a trial for invalidation concerning the Patent (referred to below as the "Invalidation Trial") on April 21, 2020 and argued grounds for invalidation related to the correction requirements, description requirements (support requirements, clarity requirements), novelty, and an inventive step.

The JPO examined the request as a case of Invalidation Trial No. 2020-800043 and decided that the claim for the Invalidation Trial is groundless (referred to below as the "first trial decision") as of January 20, 2022.

The Plaintiff filed a lawsuit to seek rescission of the first trial decision on February 28, 2022. The Intellectual Property High Court found that there was an error in the determination on the clarity requirements in the first trial decision and determined to rescind the first trial decision on November 16, 2022 (2022 (Gyo-Ke) 10019; Exhibit Ko 41).

(4) The JPO re-started examination of the Invalidation Trial as of January 11, 2023 and the Defendant requested correction of Claims [1 through 6] and [7 through 12] (referred to below as the "Correction"; the description, patent claims, or drawings attached to the application form of the Patent that were prepared immediately before the Correction shall be collectively referred to below as the "Description"; Exhibit Ko 28, Exhibits Otsu 2-2 and 2-3) based on the written request for correction dated January 30, 2023.

The JPO made a decision as of January 9, 2024, in which the JPO approved the Correction, but determined that the request for the Trial for Invalidation concerning the patent related to Claims 1 through 4 and 6 through 12 is groundless, and dismissed the request for this trial concerning the patent related to Claim 5 (the decision shall be referred to below as the "JPO Decision"). A certified copy thereof was delivered to the Plaintiff on January 19, 2024.

(5) On February 19, 2024, the Plaintiff filed this lawsuit to seek rescission of the JPO Decision.

3. Statement of the claims etc.

(1) Claims [1 through 6] and [7 through 12] of the claims of the Patent before the Correction are as stated in the Attachment "Statements of the Claims at the Re-start of the Examination" (inventions related to said Claims shall be referred to below as "Invention 1," etc. corresponding to the number assigned to each Claim, and collectively referred to as the "Inventions.").

(2) Claims [1 through 4] and [6 through 12] of the claims of the Patent after the

Correction are as stated in the Attachment "Statements of the Claims after the Correction" (the underlined parts are corrected parts and the division was made by the JPO Decision; inventions related to said Claims after the Correction shall be referred to below as "Corrected Invention 1," etc. corresponding to the number assigned to each Claim, and collectively referred to as "the Corrected Inventions.").

4. Outline of the Inventions

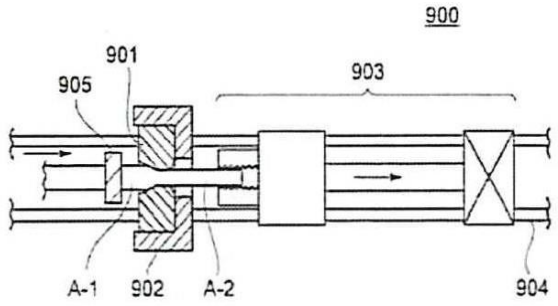
According to the Description, the technical field of the Inventions before the Correction is related to dies, in particular, dies used for drawing (paragraph [0001] in the Description; below, the number indicated in the brackets ([ ]) refers to the paragraph in the Description, unless otherwise mentioned). Drawing machine 900 is configured with a drawing die 901, a die holder 902, a drawing unit 903, and a guide rail 904. The drawing die 901 from among these components is a die for plastic deformation processing having a substantially cylindrical shape. The center axis in the substantially cylindrical shape has a through hole through which a wire rod A to be drawn is passed. The narrowest bearing 901b determines the geometry of the finished wire rod A2 after forming. An approach unit 901a, a back relief unit 901c, and a fitting hole 901d are present on both sides of the bearing unit 901b ([0004] and [0005]). When steel materials, such as a rod-shaped material, a wire rod, etc., are drawn by a die, powdery solid lubricant is generally stored in a box 905 provided on the front side of the die, and the lubricant adheres to the wire rod A. The powdery lubricant becomes an oil film due to processing heat generated in the approach unit 901a at the time of drawing of the drawing unit 903. When the powdery lubricant adheres to the oil film, lumps are formed. These lumps grow larger every time the drawing is continued, and the supply of lubricant to the surface of the material wire rod A-1 is inhibited. As a result, it was considered that scratches were generated on the surface of the finished wire rod A-2 ([0015]). The Inventions are intended to solve the problem of preventing the generation of lumps of lubricant as much as possible, etc. ([0020]).

The drawing die related to the Inventions is characterized in that it is configured with an approach unit and a bearing unit, wherein the opening for the bearing unit of the die has a substantially polygonal cross-sectional shape ([0023]). The substantially polygonal shape of the drawing die may be characterized in that it is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc, or where all corners of the basic polygonal shape are replaced with those connected with a curved line ([0024] and [0025]).

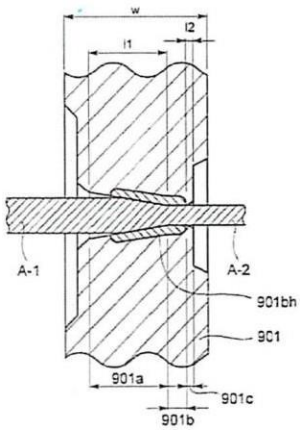
In addition, [FIG 1] is a schematic view showing the overall structure of the drawing machine. [FIG 2] is a cross-sectional view showing a structure around the die of the

drawing machine in use. [FIG 3] is the front view of a conventional drawing die. [FIG 4] is a perspective view of a conventional drawing die. [FIG 6] is an enlarged view of the "corner" of a conventional drawing die, which corresponds to range x in FIG. 3. [FIG 7] is a front view of the drawing die related to the Inventions. [FIG 8] is a perspective view of the drawing die related to the Inventions. [FIG 10] is an enlarged view of the "corner" of the drawing die related to the Inventions, which corresponds to range X in FIG 7.

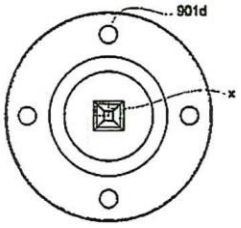
[FIG 1]



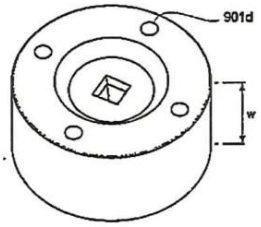
[FIG 2]



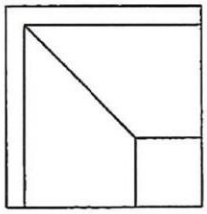
[FIG 3]



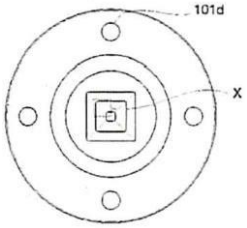
[FIG 4]



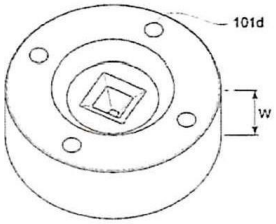
[FIG 6]



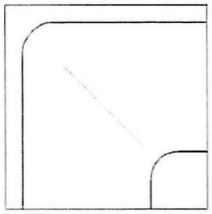
[FIG 7]



[FIG 8]



[FIG 10]



5. Summary of the grounds for the JPO Decision

From among the grounds for invalidation argued in the Invalidation Trial after the re-start of examination, what were argued as grounds for rescission in this lawsuit were Grounds for Invalidation 1 (violation of correction requirements), Grounds for

Invalidation 2 (violation of clarity requirements), Grounds for Invalidation 3 (violation of support requirements), Grounds for Invalidation 4-1 (lack of an inventive step based on a publicly known and publicly worked invention), and Grounds for Invalidation 4-2 (lack of an inventive step based on the invention stated in Exhibit Ko 2). The summary of the grounds for the JPO Decision on Grounds for Invalidation 1 is as stated below. The summary of the grounds for the JPO Decision on Grounds for Invalidation 2 through Grounds for Invalidation 4-2 is as stated in the Attachment "Summary of the Grounds for the JPO Decision."

(Grounds for Invalidation 1 (violation of correction requirements))

(1) The corrected matters in the Correction are as stated in the Attachment "Corrected Matters in the Correction." In addition, Claims [1 through 6] after the Correction and Claims [7 through 12] after the Correction are a respective group of claims.

(2) Group of Claims [1 through 6]

A (A) Corrected matter 1 added [C-2] "wherein the substantially polygonal shape is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature" (also referred to below as "matter C-2 ") to Claim 1 after the Correction and concretely specified and limited the substantially polygonal cross-sectional shape of the opening for the bearing unit of the drawing die. Therefore, it intends to restrict the claims (item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act).

(b) Matter C-2 is found to be based on the statement in Claim 5 and the statement in [0055] that "... show the bearing unit 101b of the drawing die 101 related to the Inventions. The cross-sectional shape of the bearing unit 101b related to the Inventions is characterized by a shape where the part corresponding to a 'corner' of 'the basic polygonal cross-section' as shown in FIG 6 is replaced with one connected with a circular arc that is a curved line. In concrete terms, in cases of creating a rod material with a quadrilateral cross-section having a side length of 4 mm, one 'corner' of the opening for the bearing unit 101b of the drawing die 101 is connected with a circular arc (a curved line) with an approximately 0.8 mm radius of curvature." and other statements. There are no special circumstances to interpret the statement of "approximately 0.8 mm" as not including the value of "0.8 mm" in particular, even in consideration of the entire Description.

In addition, concerning the fact that "a circular arc" that replaces at least one corner is set as "a circular arc with at least an approximately 0.8 mm radius of curvature" in corrected matter 1 suggests that if the cross-sectional shape of the bearing unit, where corners were conventionally square ([0054], FIG 6, etc.) is brought closer to a circular

cross-section, lumps of lubricant are less likely to be formed, based on the statements in the Description that "one 'corner' of the opening for the bearing unit 101b of the drawing die 101 is connected with a circular arc (a curved line) with an approximately 0.8 mm radius of curvature " ([0055]) and "This eliminates 'corners' where lubricant accumulates. As a result, in the die 101, lubricant moves in the same way as in the case of a die having a circular cross-section, and lumps of lubricant are less likely to be formed." ([0059]). It is obvious that the larger the radius of curvature becomes, less of a "corner" is formed, and the harder it is for lumps of lubricant to accumulate. Therefore, it is substantively stated in the Description, etc. to make at least one corner of the basic polygonal shape to be a circular arc with a 0.8 mm or larger radius of curvature, that is, a circular arc with at least an approximately 0.8 mm radius of curvature, so that the corner becomes closer to a circular cross-section.

The problem of accumulation of lumps of lubricant can be solved by replacing the corner shape with a curved line. Even if the shape of the opening for the bearing unit is formed as other than a quadrilateral tailored to the rod material cross-section to be created, or even if the length of a side of the opening for the bearing unit is set to be other than 4 mm, it is obvious that lumps of lubricant are less likely to be formed than before by making at least one corner of the basic polygonal shape into a circular arc with a 0.8 mm or larger radius of curvature (a circular arc with at least a 0.8 mm radius of curvature) so that the corner becomes closer to a circular cross-section. Therefore, the Correction is to include a structure wherein one corner of the opening for the bearing unit other than an opening with the shape of a quadrilateral, where the length of a side is other than 4 mm, is made into a circular arc with a 0.8 mm or larger radius of curvature. This introduces a new technical matter but does not add a new matter.

Consequently, corrected matter 1 is a correction within the scope of the Description and does not fall under the addition of a new matter (Article 134-2, paragraph (9), and Article 126, paragraph (5) of the Patent Act).

(C) Corrected matter 1 does not change the category, subject, or purpose, and therefore, it does not fall under enlargement and change of the claims (Article 134-2, paragraph (9), and Article 126, paragraph (5) of the Patent Act).

B. Corrected matter 2 is to delete Claim 5, and therefore, it aims to restrict the claims (item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act).

Corrected matter 2 does not fall under the addition of a new matter and the enlargement and change of claims (Article 134-2, paragraph (9), and Article 126, paragraph (5) and paragraph (6) of the Patent Act).

C. Corrected matter 3 is to specify and limit the "curved line" in Claim 6 before the

Correction to its subgenus, a "circular arc," concerning Claim 6 after the Correction, and therefore, it aims to restrict the claims (item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act).

Corrected matter 3 is to specify the "curved line" in Claim 6 before the Correction to its subgenus, a "circular arc," and is made based on the aforementioned statements, etc. ([0055]) in the Description. Therefore, it does not fall under the addition of a new matter (Article 134-2, paragraph (9), and Article 126, paragraph (5) of the Patent Act) and the enlargement and change of the claims (Article 134-2, paragraph (9), and Article 126, paragraph (6) of the Patent Act).

(3) Group of Claims [7 through 12]

Corrected matters 4 and 5 are to correct Claims 7 and 8 before the Correction by adding matter C-2, and therefore, it is the same correction as corrected matter 1. Consequently, corrected matters 4 and 5 aim to restrict the claims (item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act) in the same way as corrected matter 1, and do not fall under the addition of a new matter (Article 134-2, paragraph (9), and Article 126, paragraph (5) of the Patent Act) and the enlargement and change of the claims (Article 134-2, paragraph (9), and Article 126, paragraph (6) of the Patent Act).

(4) In this case, as a request for a trial for patent invalidation is filed, independent patent requirements are not imposed (Article 134-2, paragraph (9), and Article 126, paragraph (7) of the Patent Act).

(5) Consequently, Correction 1 through Correction 5 concern the matters listed in item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act and conform to Article 134-2, paragraph (9) and Article 126, paragraph (5) and paragraph (6) of the Patent Act.

No. 4 Decision of this court

1. Grounds for Rescission 1 (Error in the determination on Grounds for Invalidation 1 [violation of correction requirements])

(1) Correction 1, etc. (corrected matter 1 and corrected matters 3 through 5) are to add matter C-2, "the substantially polygonal shape is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature," to "a substantially polygonal shape" in Inventions 1, 7, and 8 before the Correction, and are to replace the "curved line" in Invention 6 with a "circular arc." Therefore, the Plaintiff argued that Correction 1, etc. are to introduce a new technical matter, and therefore, they do not conform to the correction requirements (Article 134-2, paragraph (9) and Article 126, paragraph (5) of the Patent Act).

(2) In examining the above, the request for correction of the description, claims, or

drawings attached to the application form in a trial for patent invalidation is required to have the matters listed in the items of the proviso to Article 134-2, paragraph (1) of the Patent Act as its objectives in the first place. Correction 1, etc. limit "the substantially polygonal shape" in Claims 1, 7, and 8 before the Correction by adding the aforementioned content and to limit the "curved line" in Invention 6 to a "circular arc." Therefore, it can be said that it aims to "restrict the claims" as set forth in item (i) of the proviso to Article 134-2, paragraph (1) of the Patent Act.

(3) Next, in this case, the request for correction must remain "within the scope of the matters indicated in the description, claims, or drawings attached to a written application" (Article 134-2, paragraph (9) and Article 126, paragraph (5) of the Patent Act). This is construed to be required for the purpose of ensuring the prompt granting of rights by fully disclosing an invention from the beginning of the application and preventing a third party who acts based on the scope of the invention disclosed at the time of filing an application from suffering an unexpected disadvantage. It is reasonable to construe that the "matters indicated in the description, claims, or drawings attached to the written application" means technical matters that can be derived by a person ordinarily skilled in the art through compiling all statements in the description, claims, or drawings (simply referred to below as 'original technical matters'). If the correction does not introduce any new technical matters in relation to the original technical matters, the correction is considered to be made "within the scope of the matters indicated in the description, claims, or drawings attached to the written application."

(4) In examining this case, there are the following statements in the Description.

[0015]

When steel materials, such as a rod-shaped material, a wire rod, etc., are drawn by a die, powdery solid lubricant is generally stored in a box 905 provided on the front side of the die, and the lubricant adheres to the wire rod A. The powdery lubricant becomes an oil film due to processing heat generated in the approach unit 901a at the time of drawing of the drawing unit 903. When the powdery lubricant adheres to the oil film, lumps are formed. These lumps grow larger every time the drawing is continued, and the supply of lubricant to the surface of the material wire rod A-1 is inhibited. As a result, it was considered that scratches were generated on the surface of the finished wire rod A-2.

[Outline of the invention]

[Problems to be solved by the invention]

[0020]

The objectives of the Inventions are to provide a means to prevent the generation of

lumps of lubricant as much as possible, to reduce the time required for maintenance as much as possible, and thereby reduce the manufacturing costs of wire rods with a polygonal cross-section.

[Means of solving the problems]

[0023]

The drawing die related to the Inventions is characterized in that it is configured with an approach unit and a bearing unit, wherein the opening for the bearing unit of the die has a substantially polygonal cross-sectional shape.

[0024]

The substantially polygonal shape of the drawing die may be characterized in that it is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc.

[0025]

The substantially polygonal shape of the drawing die may be characterized in that it is a shape where all corners of the basic polygonal shape are replaced with those connected with a curved line.

[0028]

The drawing machine related to the Inventions is characterized in that it is configured with a drawing die having a substantially cylindrical shape and a die holder to hold the drawing die; wherein the drawing die has a substantially polygonal shape.

[0038]

Another drawing machine related to the Inventions may be characterized in that it is configured with a drawing die having a substantially cylindrical shape, a die holder to hold the drawing die, and a box where lubricant is applied on a material wire rod that is drawn into the drawing die; wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and wherein lumps of accumulated lubricant fall off from the space between the drawing die and the wire rod by the rotation of the drawing die.

[0039]

Another drawing machine related to the Inventions may be characterized in that it is configured with a drawing die having a substantially cylindrical shape, a die holder to hold the drawing die, and a box where lubricant is applied on a material wire rod that is drawn into the drawing die; wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and wherein the lumps of lubricant accumulated in the space between the drawing die and the wire rod are prevented from growing beyond a certain size by the rotation of the drawing die.

[Mode for embodying the invention]

[0047]

The Inventions are to prevent the generation of lumps of lubricant as much as possible and to prevent using man-hours for maintenance. In other words, they prevent powdery lubricant from remaining in one place and when a lump is generated, the Inventions make it easy for the lump to fall off and, thereby, increase the production amount of wire rods with a polygonal cross-section.

[0054]

In conventional drawing die 901, two sides of the cross-section of the bearing unit 901b are hit directly without processing them to make the corners of the rod material into a right angle. Therefore, as shown in FIG 3 and FIG 6, in cases where the cross-sectional shape of the bearing unit 901b is a quadrilateral cross-section, respective sides intersect at a right angle.

The cross-sectional shape of the opening for the bearing unit 901b of the die 901 shown in FIG 6 is a quadrilateral, which is a type of polygon. This is referred to as "the basic polygonal cross-section."

[0055]

On the other hand, FIG 7 and FIG 10 show the bearing unit 101b of the drawing die 101 related to the Inventions. The cross-sectional shape of the bearing unit 101b related to the Inventions is characterized by a shape where the part corresponding to a "corner" of "the basic polygonal cross-section" as shown in FIG 6 is replaced with one connected with a circular arc that is a curved line. In concrete terms, in cases of creating a rod material with a quadrilateral cross-section having a side length of 4 mm, one "corner" of the opening for the bearing unit 101b of the drawing die 101 is connected with a circular arc (a curved line) with an approximately 0.8 mm radius of curvature.

As a result, lumps of the lubricant accumulated in the "corner" are less likely to gather in one place.

[0056]

In the drawing die 101 related to the Inventions, all four "corners" of the quadrilateral cross-section, which is "the basic polygonal cross-section," are processed in this manner. As a result, lubricant is less likely to accumulate at all positions of the die.

[0057]

In the Description, a shape wherein at least one corner of the "quadrilateral" is rounded, which means a shape wherein one "corner" to all "corners" are rounded, is also referred to as "substantially quadrilateral." Similarly, a shape wherein one "corner"

to all "corners" of a polygonal shape, including a quadrilateral, is referred to as a "substantially polygonal shape."

[0058]

Similarly, a triangle with rounded corners is referred to as "substantially triangular," and a hexagon with rounded corners is referred to as "substantially hexagonal." Even if the number of corners increases in a polygonal shape, the shape is referred to in the same manner below.

[0059]

This eliminates "corners" where lubricant accumulates. As a result, in the die 101, lubricant moves in the same way as in the case of a die having a circular cross-section, and lumps of lubricant are less likely to be formed.

[0065]

FIG 11 is a perspective view showing a rod material created with the aforementioned drawing die 101. As shown in this figure, the corners of the rod material are formed in a rounded shape.

[0069]

As stated above, since the opening for the bearing unit 101b of the drawing die 101 has no corners, lubricant does not accumulate in one place even if the drawing die 101 is rotated, and as a result, lumps of lubricant are less likely to be formed. In addition, when the approach angle and the back relief angle are set wide, even if a lump is formed, the lump easily falls off naturally. These naturally have an effect when manufacturing a twist bar.

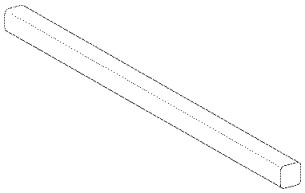
[0074]

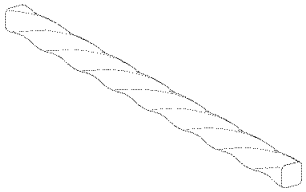
In addition, in the case of a twist bar manufactured by the manufacturing method in the patent application in question, if the "corners" of a die are rounded, the corners of the finished twist bar are also rounded. As a result, similarly to a steel rod material having a polygonal cross-section, the user does not cut their hand when holding the twist bar with their bare hands, and safety can be improved.

[0077]

In addition, depending on the situation, even if only one or two corners are rounded, it may be acceptable for use. This is because, when manufacturing a rod material, lubricant may not accumulate in some cases if only the corner at the "lowest" position of the die is rounded.

[FIG. 11] [FIG. 12]





(5) Review

A. Based on the aforementioned statements in the Description, the details of the Inventions are as stated below. When drawing steel materials, such as a rod material, a wire rod, etc., by a die, powdery lubricant adhering to the wire rod A becomes an oil film due to heat generated from processing in the approach unit 901a. When the powdery lubricant adheres to the oil film, lumps are formed. These lumps grow every time the drawing is continued, and the supply of lubricant to the surface of the material wire rod A-1 is inhibited. As a result, scratches are generated on the surface of the finished wire rod A-2 ([0015]). The Inventions are for the purpose of preventing the generation of lumps of lubricant as much as possible ([0020]). In concrete terms, they prevent powdery lubricant from accumulating in one place in the space between the drawing die and the material wire rod. If a lump is generated, in order to make the lump fall off more easily ([0038], [0039] and [0047]), in cases of a conventional drawing die 901, two sides of the cross-section of the bearing unit 901b are hit directly without processing them to make the corners of the rod material into a right angle ([0054], [FIG 3], and [FIG6]), while in cases of the bearing unit 101b of the drawing die 101 related to the Inventions, regarding the cross-sectional shape of the opening for the bearing unit (simply referred to below as a "cross-sectional shape"), the part corresponding to a "corner" of "the basic polygonal cross-section" as shown in FIG 6 is replaced with a shape where the part is connected with a circular arc, which is a curved line.

The following are stated in the Description. In a concrete embodiment example (referred to below as the "Embodiment Example"), in cases of creating a rod material having a quadrilateral cross-section having a side length of 4 mm, one "corner" of the opening for the bearing unit 101b of the drawing die 101 is connected with a circular arc (a curved line) with an approximately 0.8 mm radius of curvature. As a result, lumps of lubricant accumulated in the "corner" are less likely to gather in one place ([0055], [FIG 7], and [FIG 10]). If all four "corners" of the quadrilateral cross-section, which is "the basic polygonal cross-section," are processed in the same way, lubricant is less likely to accumulate at all positions ([0056]; in the Embodiment Example, the circular

arc that connects a "corner" of a quadrilateral, which is the basic polygonal shape, is a circular arc of a circle with an approximately 0.8 mm radius of curvature and it can be read that the part where said circle comes into contact with the corner in the way said circle is inscribed in the two sides that form the corner of the opening is replaced with a circular arc (the entire import of oral arguments).). Assuming that all "corners" of a polygonal shape, including a quadrilateral, are rounded shapes, there will be no "corners" where lubricant accumulates. As a result, lubricant moves in the same way as in the case of a die having a circular cross-section in this die 101 and lumps of lubricant are less likely to be formed ([0057] through [0059], and [0069]).

However, there are no statements or suggestions in the Description related to the length of a side, numerical values of radius of curvature, and technical meaning of their combination in the Embodiment Example. There are also no statements and suggestions to understand the specific way of configuration in other "substantially polygonal shapes" based on the configuration of the Embodiment Example alone.

Based on the above, the Description discloses the technical idea that, if one or more "corners" of the cross-sectionally shaped substantially polygonal shape of the drawing die are replaced with a circular arc, this prevents powdery lubricant from gathering in one place in the space between the drawing die and the material wire rod, and if a lump is formed, this makes the lump fall off more easily (the technical idea is referred to below as the "Technical Idea"). However, there is no explanation of the developmental mechanism and principle of the effect. As an embodiment example, only the following facts are disclosed: in cases where [i] the finished wire rod by drawing is a rod material, [ii] the rod material has a quadrilateral cross-section, and [iii] in cases where the length of a side of the rod material to be created is 4 mm, [iv] if the corners of the opening for the die are "rounded" shapes by connecting them with a circular arc with an approximately 0.8 mm radius of curvature, lumps of lubricant are less likely to be formed. As stated above, "a circular arc with an approximately 0.8 mm radius of curvature" in the Embodiment Example seems to be a circular arc of a circle that is inscribed in two sides forming the corner. Therefore, the center position of the circle related to said circular arc is considered to be in the position of the center of the inscribed circle. However, regarding the numerical value of a side length (4 mm) and numerical value of radius of curvature of a circular arc (approximately 0.8 mm) that are adopted in the Embodiment Example, the existence of the technical meaning of their combination and the degree of the effect are not clear.

B. However, concerning the " substantially polygonal shape" in Inventions 1, 7, and 8 before the Correction, matter C-2, which adds "the substantially polygonal shape is a

shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature," replaces the "corner" of said polygonal shape with "a circular arc with at least a 0.8 mm radius of curvature" regardless of the form and type of the polygonal shape that is a cross-sectional shape and the degree of the length of a side, and sets the radius of curvature of the circular arc to be "0.8 mm at minimum" and does not limit the circular arc to that of an inscribed circle. However, as stated above, there are no statements or suggestions in the Description concerning the technical meaning of the numerical value of "an approximately 0.8 mm" radius of curvature (meaning 0.8 mm and close values thereto) of a circular arc, which is adopted in the Embodiment Example. The Embodiment Example only replaces a corner of a substantially quadrilateral shape having a side length of 4 mm with the circular arc of an inscribed circle. There are no statements in the Description concerning the technical meaning to set the minimum value of the radius of curvature of a circular arc with which a corner is replaced to be "0.8 mm" regardless of the form and type of the polygonal shape, the degree of the length of a side, and the position of the center of the circular arc. In addition, matter C-2 does not specify and limit the form and the side length of the basic polygonal shape, which is a cross-sectional shape. On the other hand, the Embodiment Example is based on the assumption that the rod material to be drawn has a quadrilateral cross-section and a side of the rod material to be created is 4 mm. In the Description, there is no embodiment example other than the Embodiment Example and there is no general explanation concerning the technical meaning of combining the numerical values of the Embodiment Example or concerning the developmental mechanism and principle of the effect in the Inventions. Therefore, although the Technical Idea is disclosed in the Description, it should be said that matters beyond the scope of the matters disclosed in the Embodiment Example are not stated.

Based on the above, matter C-2 is to be found to introduce a new technical matter in relation to the original statements in the Description.

C. Based on the above, the Correction, including Correction 1, etc., is not a correction made within the scope of the matters indicated in the Description.

(6) Argument of the Defendant

A. The Defendant argued as follows: According to the statement of "an approximately 0.8 mm radius" ([0055]), etc. in the Description, the "circular arc with 0.8 mm radius" of curvature and the "circular arc with a nearly 0.8 mm radius" of curvature have been disclosed in the Description; in addition, it is obvious, concerning the problem of accumulation of lumps of lubricant at a corner, that the larger the radius of curvature

becomes, the less the bending degree of the corner becomes and the corner becomes closer to a circular cross-section, and as a result, lumps of lubricant are less likely to accumulate and the relevant problem is solved; therefore, it is obvious based on the statements in the Description that if it is "a circular arc with a 0.8 mm or larger radius" of curvature as stated in Correction 1, etc., the effect of the inventions can be obtained.

However, a circular arc with "a 0.8 mm radius" or "a nearly 0.8 mm radius" that is disclosed in the Embodiment Example is for a circular arc of an inscribed circle that is to replace a corner in a substantially quadrilateral shape having a side length of 4 mm. It is not obvious based on the statements in the Description whether the effect of the invention can be obtained even in cases where the polygonal shape or a side length is different from the above or where the circular arc is other than that of an inscribed circle. It is true that if a "corner" of the basic polygonal shape is replaced with a "circular arc," the larger the radius of curvature becomes, the less the bending degree of the circular arc becomes. However, regardless of the size of the radius of curvature, there may be a case where a circular arc does not come into contact with the neighboring two sides forming the corner, but passes over the two sides depending on the position of the center of the circle related to the circular arc. As stated in the latter case, if a circular arc passes over two sides, a new corner is formed in said part by a straight line and a curved line. Therefore, there may be a case where the corner becomes closer to a circular cross-section rather than the former case. Based on the above, whether the corner becomes closer to a circular cross-section or not is not immediately determined by the size of the radius of curvature. It cannot be said that the larger the radius of curvature becomes, the closer the corner becomes to a circular cross-section.

The Defendant argued that if a "corner" of the polygonal shape is replaced with a "circular arc," a person ordinarily skilled in the art will replace the corner with the circular arc of a circle inscribing in two sides that form the corner. However, the method of replacing a "corner" with a "circular arc" is not limited to a method of "rounding a corner" by replacing it with the circular arc of a circle inscribing in two sides that form the corner. If a person ordinarily skilled in the art replaces a corner of the opening for the bearing unit with a circular arc, it is found that there is not only a method to replace it with a circular arc between contact points where the circle comes into contact with the two sides in a way of being inscribed in the neighboring two sides that form the corner (inscribing type), but also a method to replace it with a circular arc of a circle with a radius that is larger than the minimum distance from the center of the polygonal shape to each side, and passes over the neighboring two sides that form the corner (non-inscribing type) (Exhibits Ko 19, 20, 51, and 53). The inscribing type (a method of

rounding a corner) is not considered to be common general technical knowledge.

Therefore, concerning a circular arc which replaces a "corner," it cannot be found that a structure wherein if it is a "circular arc with a 0.8 mm or larger radius" of minimum curvature, the effect of the invention can be obtained regardless of the length of a side and the position of the center of the circular arc, is disclosed according to the statements in the Description. Consequently, setting aside the case where a correction is made to limit to the Embodiment Example, as far as it relates to the Correction, the Defendant's argument that it does not fall under an addition of a new matter cannot be accepted.

B. The Defendant argued as follows: the problem of lumps of lubricant accumulating at a corner is solved by replacing the corner shape with a curved line; therefore, it is obvious that even if the opening is set to be a polygonal shape other than a quadrilateral having a side length of 4 mm, if at least one corner is replaced with a circular arc with a 0.8 mm or larger radius of curvature to make the corner closer to a circular cross-section, lumps of lubricant are less likely to accumulate; the ease of accumulation of lumps of lubricant depends on the radius of curvature, and the side length has no impact.

However, as stated in A. above, based on the content stated in the Description, where there is no explanation of the developmental mechanism and principle of the effect of the invention; as an embodiment example, only one Embodiment Example is listed; and there is no explanation of the technical meaning of numerical values used in the Embodiment Example, it cannot always be said that the larger the radius of curvature of the circular for replacement is, the more gentle the curved line of the corner of the opening becomes, or the closer to a circular cross-section the corner becomes. Based on the above, it is difficult to determine that it is obvious that the larger the radius of curvature of the circular for replacement is, the less likely it is for lumps of lubricant to accumulate.

Originally, concerning the formation of lumps of lubricant, powdery lubricant adheres to lubricant that becomes an oil film from the powder by heat generated from drawing and becomes a lump, and then such lump grows as the drawing is continued. It is also stated in the Description that lumps of accumulated lubricant fall off or their growth is prevented by the rotation of the drawing die and that if lubricant moves in the same way as a die with a circular cross-section, lumps of lubricant are less likely to be formed ([0015], [0038], [0039], and [0059]). In consideration of said movement of lubricant in the drawing process, as causes to make lubricant accumulate more easily, not only the radius of curvature of the circular arc that replaces a corner, but also the polygonal cross-sectional shape, the number of corners to be replaced with a circular

arc, type of a wire rod, type of lubricant (viscosity, density, volume), existence of rotation during processing, degree of heat generated from processing, and other elements should be considered. Therefore, it is difficult to determine that the Description discloses that the ease of lubricant accumulation is determined by the radius of curvature alone.

Consequently, based on the statements in the Description, it cannot be found to be disclosed that if the radius of curvature of the circular arc to replace a corner of the opening is 0.8 mm or larger, lumps of lubricant are less likely to be formed. Therefore, the Defendant's argument that the Correction does not fall under an addition of a new matter cannot be accepted.

(7) Based on the above, the Correction including Correction 1, etc. introduces a new technical matter, and therefore, it violates the correction requirements (Article 134-2, paragraph (9) and Article 126, paragraph (5) of the Patent Act) and there is an error in the JPO Decision which determined that the Correction conforms to the correction requirements.

2. Consequently, there is an error in the JPO Decision without the need to make determinations on the other remaining points and it is reasonable to rescind the JPO Decision.

No. 5 Conclusion

Consequently, the claim of the Plaintiff has grounds and therefore it is granted, and the judgment is rendered as indicated in the main text.

Intellectual Property High Court, Second Division
Presiding judge SHIMIZU Hibiku
Judge KIKUCHI Eri
Judge RAI Shinichi

(Attachment)

Statements of the Claims at the Re-start of the Examination

[Claim 1]

A die drawing machine which is characterized in that it is configured with a die holder that holds a drawing die in a substantially cylindrical shape and that rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die and

a box where the lubricant stored therein is applied on a material wire rod and then the material wire rod is drawn into the drawing die;

wherein the opening for the bearing unit of the drawing die has a substantially polygonal cross-sectional shape; and

wherein the cross-sectional shape of the opening is the same in the drawing direction of the material wire rod.

[Claim 2]

The drawing machine stated in Claim 1,

wherein the die holder rotates the die in accordance with the time elapsed from the processing start time.

[Claim 3]

The drawing machine stated in Claim 2,

which is characterized in that it is configured with a drawing unit and

a guide rail to determine the travel direction of the drawing unit;

wherein the die holder rotates the die depending on the position of the drawing unit on the guide rail.

[Claim 4]

The drawing machine stated in Claim 2,

which is characterized in that it is configured with a drawing unit and

a guide rail to determine the travel direction of the drawing unit;

wherein the die holder rotates the die depending on how far the drawing unit has traveled on the guide rail after the start of processing.

[Claim 5]

The drawing machine stated in any of Claim 1 through Claim 4,

which is characterized in that the substantially polygonal shape is replaced with a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc.

[Claim 6]

The drawing machine stated in any of Claim 1 through Claim 4,

which is characterized in that the substantially polygonal shape is replaced with a shape where all corners of the basic polygonal shape are replaced with those connected with a curved line.

[Claim 7]

A drawing machine which is characterized in that it is configured with a substantially cylindrical shaped drawing die that has an opening for the bearing with a substantially polygonal cross-section shape,

a die holder to hold the drawing die, and

a box where lubricant is applied on a wire rod that is drawn into the drawing die;

wherein the cross-sectional shape of the opening for the bearing unit is the same in the drawing direction of the wire rod,

wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and

wherein lumps of accumulated lubricant fall off from the space between the drawing die and the wire rod by the rotation of the drawing die.

[Claim 8]

A drawing machine which is characterized in that it is configured with a substantially cylindrical shaped drawing die that has an opening for the bearing with a substantially polygonal cross-section shape,

a die holder to hold the drawing die, and

a box where lubricant is applied on the material wire rod that is drawn into the drawing die;

wherein the cross-sectional shape of the opening for the bearing unit is the same in the drawing direction of the wire rod,

wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and

wherein lumps of lubricant accumulated in the space between the drawing die and the wire rod are prevented from growing beyond a certain size by the rotation of the drawing die.

[Claim 9]

The drawing machine stated in Claim 7 or Claim 8,

which is characterized in that the space between the drawing die and the wire rod is created in the approach unit of the drawing die.

[Claim 10]

The drawing machine stated in Claim 7 or Claim 8,

which is characterized in that the space between the drawing die and the wire rod is

created in the back relief unit of the drawing die.

[Claim 11]

The drawing machine stated in Claim 7 or Claim 8,

which is characterized in that it is configured with a drawing unit; and

wherein the drawing unit draws out the wire rod that has been drawn into the drawing die.

[Claim 12]

The drawing machine stated in Claim 7 or Claim 8,

which is characterized in that it is configured with a drum and a drawing device having an electric device to rotate the drum; and

wherein the drawing device draws out the wire rod that has been drawn into the drawing die.

End of text.

(Attachment)

Statements in the Claims after the Correction

[Claim 1]

[A] A die drawing machine which is characterized in that it is configured with a die holder that holds a drawing die in a substantially cylindrical shape and that rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die and

[B] a box where the lubricant stored therein is applied on a material wire rod and then the material wire rod is drawn into the drawing die;

[C-1] wherein the opening for the bearing unit of the drawing die has a substantially polygonal cross-sectional shape; and

[C-2] wherein the substantially polygonal shape is replaced with a shape where at least one corner of the basic polygonal shape is replaced with one connected with a 0.8 mm radius circular arc, and

[D] wherein the cross-sectional shape of the opening is the same in the drawing direction of the material wire rod.

[Claim 2]

The drawing machine stated in Claim 1,

[E] which is characterized in that the die holder rotates the die in accordance with the time elapsed from the processing start time.

[Claim 3]

The drawing machine stated in Claim 2,

[F] which is characterized in that it is configured with a drawing unit and

[G] a guide rail to determine the travel direction of the drawing unit;

[H] wherein the die holder rotates the die depending on the position of the drawing unit on the guide rail.

[Claim 4]

The drawing machine stated in Claim 2,

[F] which is characterized in that it is configured with a drawing unit and

[G] a guide rail to determine the travel direction of the drawing unit;

[I] wherein the die holder rotates the die depending on how far the drawing unit has traveled on the guide rail after the start of processing.

[Claim 5] (Deleted)

[Claim 6]

The drawing machines stated in any of Claim 1 through Claim 4,

[K] which is characterized in that the substantially polygonal shape is replaced with a

shape where all corners of the basic polygonal shape are replaced with those connected with a circular arc.

[Claim 7]

[A] [C-1] A drawing machine which is characterized in that it is configured with a substantially cylindrical shaped drawing die that has an opening for the bearing with a substantially polygonal cross-section shape,

[A] a die holder to hold the drawing die, and

[B] a box where lubricant is applied on a wire rod that is drawn into the drawing die;

[C-2] wherein the substantially polygonal shape is replaced with a shape where at least one corner of the basic polygonal shape is connected with a 0.8 mm radius circular arc, and

[D] wherein the cross-sectional shape of the opening for the bearing unit is the same in the drawing direction of the wire rod,

[A] wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and

[L] wherein lumps of accumulated lubricant fall off from the space between the drawing die and the wire rod by the rotation of the drawing die.

[Claim 8]

[A] [C-1] A drawing machine which is characterized in that it is configured with a substantially cylindrical shaped drawing die that has an opening for the bearing with a substantially polygonal cross-section shape,

[A] a die holder to hold the drawing die, and

[B] a box where lubricant is applied on a material wire rod that is drawn into the drawing die;

[C-2] wherein the substantially polygonal shape is replaced with a shape where at least one corner of the basic polygonal shape is connected with a 0.8 mm radius circular arc, and

[D] wherein the cross-sectional shape of the opening for the bearing unit is the same in the drawing direction of the wire rod,

[A] wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and

[M] wherein lumps of lubricant accumulated in the space between the drawing die and the wire rod are prevented from growing beyond a certain size by the rotation of the drawing die.

[Claim 9]

The drawing machine stated in Claim 7 or Claim 8,

[N] which is characterized in that the space between the drawing die and the wire rod is created in the approach unit of the drawing die.

[Claim 10]

The drawing machine stated in Claim 7 or Claim 8,

[O] which is characterized in that the space between the drawing die and the wire rod is created in the back relief unit of the drawing die.

[Claim 11]

The drawing machine stated in Claim 7 or Claim 8,

[F] which is characterized in that it is configured with a drawing unit; and

[P] wherein the drawing unit draws out the wire rod that has been drawn into the drawing die.

[Claim 12]

The drawing machine stated in Claim 7 or Claim 8,

[Q] which is characterized in that it is configured with a drum and

[R] a drawing device having an electric device to rotate the drum; and

[S] wherein the drawing device draws out the wire rod that has been drawn into the drawing die.

End of text.

(Attachment)

Summary of the Grounds for the JPO Decision

From among the grounds for invalidation argued in the Invalidation Trial after the re-start of examination, what were argued as grounds for rescission in this lawsuit were Grounds for Invalidation 1 (violation of correction requirements), Grounds for Invalidation 2 (violation of clarity requirements), Grounds for Invalidation 3 (violation of support requirements), Grounds for Invalidation 4-1 (lack of an inventive step based on a publicly known and publicly worked invention), and Grounds for Invalidation 4-2 (lack of an inventive step based on the invention stated in Exhibit Ko 2). The summary of the grounds for the JPO Decision on Grounds for Invalidation 2 through Grounds for Invalidation 4-2 is as stated below.

1. Grounds for Invalidation 2 (violation of clarity requirements)

(1) Corrected Inventions 1, 7, and 8 specify the substantially polygonal shape of the opening for the bearing unit of a drawing die as the basic polygonal shape with "at least one corner connected with a circular arc with a 0.8 mm radius of curvature." It is obvious concerning the circular arc with which at least one corner of the opening for the bearing unit of a drawing die is connected, that if the radius of curvature is 0.8 mm or larger, the relevant circular arc is included in the technical scope of Corrected Inventions 1, 7, and 8 and if the radius of curvature is less than 0.8 mm, the relevant circular arc is not included. Therefore, there are no unclear points in the technical scope of Corrected Inventions 1, 7, and 8.

(2) In addition, the statement of "at least 0.8 mm radius" can be interpreted as "a 0.8 mm or lager radius," where "a 0.8 mm radius" becomes the minimum value. The Defendant also stated the same interpretation in the written request for correction of the Correction. Based on these facts, the aforementioned statement is not unclear to the extent where third party's interest is unlawfully harmed. The term "at least" is an adverb. In consideration of the fact that it is a term with the meaning of "at the lowest estimate, at a minimum," etc., it cannot be said that said term made the statement unclear.

(3) Therefore, the Corrected Inventions related to Claims 1, 7, and 8 after the Correction and subordinate claims thereto do not violate the clarity requirements (Article 36, paragraph (6), item (ii) of the Patent Act).

2. Grounds for Invalidation 3 (violation of support requirements)

(1) The structure of "the substantially polygonal shape is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature" in Corrected Inventions 1, 7, and 8 is stated in the Description ([0055]). In addition, according to the statements in the Description ([0055]

and [0059]), the fact that the Corrected Inventions include a 0.8 mm or larger radius of curvature is supported by the Description. Since the larger than 0.8 mm the radius of curvature of a corner's circular arc becomes, the closer to a circular cross-section the corner becomes, at least one corner of the basic polygonal shape should be set to be a circular arc with a 0.8 mm or larger radius of curvature to make the corner closer to a circular cross-section, in other words, should be set to be a circular arc with at least a 0.8 mm radius of curvature.

(2) According to the statements in the Description ([0015], [0020], [0055], and [0069]), it is understood that the cross-sectional shape of the bearing unit of the drawing die has the following problem: a space (clearance) that heat generated from processing (heat generated from processing in the approach unit during drawing by a drawing unit) does not reach is generated between the part corresponding to a "corner" of the opening and the material wire rod, where lubricant does not become an oil film, but a lump, and accumulates intensively in the space of the "corner" due to centrifugal force in association with the rotation. The following are also understood as countermeasures against this problem: if the "corner" of the opening is connected with a circular arc with an approximately 0.8 mm radius of curvature, it eliminates the space (clearance) where the heat generation from processing does not reach, it facilitates the heat generated from the processing in the approach unit being transferred more easily to the circular arc of the "corner" of the bearing unit, and the frictional heat with the material wire rod is likely to be generated more easily, and thereby, generation of lumps of lubricant is controlled; even if lumps of lubricant are generated and centrifugal force acts, thanks to the "corner" being a circular arc, the lubricant disperses without accumulating in one place; and even if lumps of lubricant are generated, they do not accumulate in the "corner" since the growing of lumps of lubricant is controlled.

In addition, according to particulars in C-2 that identify Corrected Inventions 1, 7, and 8, it is obvious that the problem of preventing the generation of lumps of lubricant can be solved. The space (clearance) that the heat generated from processing does not reach may be generated if the cross-sectional shape of the bearing unit is a "substantially polygonal shape" ([0055]). However, it is obvious that the generation of lumps of lubricant can be prevented by replacing the space with one connected with a circular arc with at least a 0.8 mm radius of curvature. Therefore, even if the Corrected Inventions do not specify the specific shape of the polygonal shape or the length of a side thereof, the problem can be solved. Furthermore, even taking the Description into consideration, it is not stated that the radius of curvature of a circular arc that is formed at the corner of the basic polygonal shape should be designed in relation to the specific

shape of the polygonal shape and the length of a side thereof in order to solve the problem.

Based on the above, it cannot be said that a person ordinarily skilled in the art cannot understand that lubricant is less likely to accumulate at the corner of the opening only by setting the radius of curvature for the roundness of the corner of the opening to be 0.8 mm or larger.

(3) Therefore, the Corrected Inventions related to Claims 1, 7, and 8 after the Correction and subordinate claims thereto do not violate the support requirements (Article 36, paragraph (6), item (i) of the Patent Act).

3. Grounds for Invalidation 4-1 (lack of an inventive step based on a publicly known and publicly worked invention)

(1) According to the allegations and evidence (Exhibits Ko 1, 34, and 35) in the written refutation of the Plaintiff dated March 27, 2023 and the written reply dated June 20, 2023 in the proceedings of the Invalidation Trial after re-start of the examination, the following publicly known and publicly worked invention is found. Comparing it with Corrected Invention 1, the following common features and differences are found.

(Publicly known and publicly worked invention)

B' A die drawing machine

A' which is configured with a die holder that holds a drawing die in a substantially cylindrical shape and that rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die and

B' a box where lubricant is applied on a material wire rod and then the material wire rod is drawn into the drawing die;

C' wherein the opening for the bearing unit of the drawing die is quadrilateral and its four corners have a cross-sectional shape which is a circular arc with a 0.4 mm radius of curvature; and

D' wherein the cross-sectional shape of the opening is the same in the drawing direction of the material wire rod.

(Common features)

A die drawing machine which is configured with a die holder that holds a drawing die in a substantially cylindrical shape and that rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and a box where lubricant is applied on a material wire rod and then the material wire rod is drawn into the drawing die; wherein the opening for the bearing unit of the drawing die has a substantially polygonal cross-sectional shape; wherein the substantially polygonal shape is a shape where at least one corner of the basic polygonal shape is replaced with

one connected with a circular arc; and wherein the cross-sectional shape of the opening is the same in the drawing direction of the material wire rod.

(Difference A)

Concerning lubricant, it is "stored therein" in Corrected Invention 1, while it is not clear whether lubricant is stored inside in the publicly known and publicly worked invention.

(Difference B)

Concerning the substantially polygonal cross-sectional shape of the opening for the bearing unit of the drawing die, it is "a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature" in Corrected Invention 1, while in the publicly known and publicly worked invention, it is a cross-sectional shape where the four corners constitute a circular arc with a 0.4 mm radius of curvature.

(2) Concerning Difference B, similar to the publicly known and publicly worked invention, even if the substantially polygonal cross-sectional shape of the opening for the bearing unit of a drawing die that is in a shape where the four corners (at least one corner) of a quadrilateral (the basic polygonal shape) are connected with a circular arc with a 0.4 mm radius of curvature is publicly known or publicly worked, the radius of curvature of the circular arc needs to be modified from 0.4 mm to 0.8 mm or larger in order to constitute the configuration in Difference B. However, both the technical idea to replace the cross-sectional shape of the bearing unit of a drawing die with a shape where the part corresponding to a "corner" of "the basic polygonal shape" is replaced with one connected with a circular arc to solve the problem of preventing the generation of lumps of lubricant at the corner of the polygonal shape as much as possible, and the technical idea to increase the radius of curvature of the circular arc to make the corner closer to a circular cross-section to prevent the generation of lumps of lubricant at the corner of the polygonal shape of the opening were not publicly known or well-known. Therefore, there is no motive to make the four corners into a circular arc with a 0.8 mm or larger radius of curvature in the publicly known and publicly worked invention where the four corners constitute a circular arc with a 0.4 mm radius of curvature. In addition, also in the documentary evidence (Exhibit Ko 36), it is construed that the curvature of 0.8 mm or larger is outside the scope of normal design by a person ordinarily skilled in the art. Corrected Invention 1 shows unexpected function and effect of preventing the generation of lumps of lubricant at a corner of a polygonal shape by the structure in Difference B, and this difference cannot be categorized in the matter of design variation. Therefore, Corrected Invention 1 cannot be said to have been easily made by a person

ordinarily skilled in the art based on the publicly known and publicly worked invention.

In addition, when comparing Corrected Inventions 2 through 4 and 6 that cited Corrected Invention 1 with the publicly known and publicly worked invention, they are different at least in Difference B. When comparing Corrected Inventions 7 and 8 that have the same particulars for identifying the invention as Corrected Invention 1 and Corrected Inventions 9 through 12 that cited Corrected Inventions 7 or 8 with the publicly known and publicly worked invention, they are different at least in Difference B. Therefore, these inventions cannot be said to have been easily made by a person ordinarily skilled in the art based on the publicly known and publicly worked invention.

(3) Consequently, grounds for invalidation due to the lack of an inventive step (Article 29, paragraph (2) of the Patent Act) based on the publicly known and publicly worked invention cannot be found with the Corrected Inventions.

4. Grounds for Invalidation 4-2 (lack of an inventive step based on the invention stated in Exhibit Ko 2)

(1) A. According to Exhibit Ko 2 (Publication of Examined Patent Application No. 1957-3856), which is a publication distributed before the priority date of the Patent, the following invention (also referred to below as "Exhibit Ko 2 Invention") is found. Comparing it with Corrected Invention 1, the following common features and differences were found.

(Exhibit Ko 2 Invention)

A device to conduct a cold drawing method which is configured with a support material 5 that holds a die 9 with a substantially cylindrical shape and that rotates the die 9 centered around the substantially cylindrical shaped center axis, and a soap box 8 where a soap stored therein is applied to a wire and then the wire is drawn into the die 9; wherein the cross-section of the path of the die 9 is a polygonal shape with rounded corners; wherein the cross-sectional shape of the path has a different direction in the longitudinal direction of the wire and different areas; and wherein the hole of the path of the die 9 is enlarged outward of the die 9.

(Common features)

A die drawing machine which is configured with a die holder that holds a drawing die in a substantially cylindrical shape and that rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die and a box where the lubricant stored therein is applied on a material wire rod and then the material wire rod is drawn into the drawing die; wherein the opening for the drawing die has a substantially polygonal cross-sectional shape.

(Difference [a])

A device or machine that has a substantially polygonal cross-sectional shape is a "bearing unit" where "the cross-sectional shape of the opening is the same in the drawing direction of the material wire rod" in the drawing die in Corrected Invention 1, while it is a path where the cross-sectional shape has a different direction in the longitudinal direction of the wire and different areas in the die 9 in Exhibit Ko 2 Invention. In other words, point 22 (FIG 3 in Exhibit Ko 2), where the cross-sectional area of the path becomes minimal, has no width in the longitudinal direction of the wire, and therefore, it does not have a part corresponding to the "bearing unit" where "a cross-sectional shape of the opening is the same in the direction of drawing direction of the material wire rod" in Corrected Invention 1.

(Difference [b])

Concerning the substantially polygonal cross-sectional shape of the opening for the bearing unit of the drawing die, it is "a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature" in Corrected Invention 1, while the cross-section of the path of the die 9 is a polygonal shape with rounded corners in Exhibit Ko 2 Invention.

B. Concerning Difference [a], assuming that there is well-known art where the cross-sectional shape of the opening for the bearing unit of the drawing die is "the same in the drawing direction of the material wire rod," when the well-known art is applied to the "cross-sectional shape of the opening" "having a substantially polygonal cross-sectional shape" and the "cross-sectional shape of the opening" for "the bearing unit" is made to be "the same in the drawing direction of material wire rod" in Exhibit Ko 2 Invention, even if a wire in the die is drawn, the die no longer rotates in conjunction with this movement of the wire and a spiral line cannot be obtained by a single movement. Therefore, it is against the problem in Exhibit Ko 2 Invention to obtain a spiral line of a non-circular cross-section by a single movement. Therefore, there is a disincentive for application of the relevant well-known art to Exhibit Ko 2 Invention and there is no motivation to apply it to Exhibit Ko 2 Invention and to configure the structure in Difference [a].

Concerning Difference [b], there is no recognition of the problem of preventing the generation of lumps of lubricant at the corner of a polygonal shape as much as possible and there is no statement of the technical idea to replace the cross-sectional shape of the opening for the bearing unit of the drawing die with a shape where the part corresponding to a "corner" of "the basic polygonal shape cross-section" is connected with a circular arc, to solve said problem in Exhibit Ko 2. Even taking other evidence into consideration, it cannot be said that the aforementioned technical idea was publicly

known or well-known to solve the problem or that the technical idea to enlarge the radius of curvature of the circular arc to make the corner closer to a circular cross-section is publicly known or well-known to prevent the generation of lumps of lubricant at the corner of a polygonal shape of the opening. Therefore, the motivation to modify Exhibit Ko 2 Invention to the structure in Difference [b] cannot be found. In addition, Corrected Invention 1 shows the unexpected function and effect of preventing the generation of lumps of lubricant at a corner of the polygonal shape by having the structure in Difference [b], and this difference cannot be categorized in the simple matter of design variation.

C. Therefore, a person ordinarily skilled in the art could not have easily made Corrected Invention 1 based on Exhibit Ko 2 Invention, etc. or Corrected Inventions 2 through 4 and 6 that cited Corrected Invention 1, based on Exhibit Ko 2 Invention, etc.

(2) A. Comparing the Exhibit Ko 2 Invention with Corrected Invention 7, the following common features and differences are found.

(Common features)

A drawing machine which is configured with a substantially cylindrical shaped drawing die having a substantially polygonal cross-sectional shape of the opening, and a box where lubricant is applied to a wire rod that is drawn into the drawing die; wherein the die holder rotates the drawing die centered around the substantially cylindrical shaped central axis of the drawing die, and wherein there is a space between the drawing die and the wire rod.

(Difference [d])

A device or machine that has a substantially polygonal cross-sectional shape is a "bearing unit" where "a cross-sectional shape of the opening is the same in the drawing direction of the material wire rod" in the drawing die in Corrected Invention 7, while it is a path wherein the cross-sectional shape has a different direction in the longitudinal direction of the wire and different areas in the die 9 in Exhibit Ko 2 Invention. In other words, point 22 (FIG 3 in Exhibit Ko 2), where the cross-sectional area of the path becomes minimal, has no width in the longitudinal direction of the wire, and therefore, it does not have a part corresponding to the "bearing unit" where "a cross-sectional shape of the opening is the same in the drawing direction of the material wire rod" in Corrected Invention 7.

(Difference [e])

Corrected Invention 7 is a machine that "lumps of accumulated lubricant drop off from the space between the drawing die and the wire rod by the rotation of the drawing die," while Exhibit Ko 2 Invention is found to have a space, but is not clear whether

lumps of lubricant drop off.

(Difference [f])

Concerning the substantially polygonal cross-sectional shape of the opening for the bearing unit of the drawing die, it is "a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature" in Corrected Invention 7, while the cross-section of the path of the die 9 is a polygonal shape with rounded corners in Exhibit Ko 2 Invention.

B. Since Difference [d] has no substantive difference from Difference [a] in Corrected Invention 1, there is no motivation to apply the relevant well-known art to Exhibit Ko 2 Invention and to configure the structure of Corrected Invention 7 which is related to Difference [d]. In addition, Difference [f] has no substantial difference from Difference [b] in Corrected Invention 1, it cannot be considered to have been easily made by a person ordinarily skilled in the art based on Exhibit Ko 2 Invention.

C. Therefore, a person ordinarily skilled in the art could not have easily made Corrected Invention 7 based on Exhibit Ko 2 Invention and the well-known art.

D. Comparing Exhibit Ko 2 Invention and Corrected Invention 8, they have the same content as Differences [d] and [f] in Corrected Invention 7. Therefore, as stated above, a person ordinarily skilled in the art could not have easily conceived of Corrected Invention 7 based on Exhibit Ko 2 Invention and the well-known art.

E. Therefore, a person ordinarily skilled in the art could not have easily made Corrected Inventions 7 and 8 based on Exhibit Ko 2 Invention, etc. and a person ordinarily skilled in the art could not have easily made Corrected Inventions 9 through 12 that cited Corrected Inventions 7 and 8 based on Exhibit Ko Invention, etc. either.

(3) Consequently, the grounds for invalidation due to the lack of an inventive step (Article 29, paragraph (2) of the Patent Act) based on Exhibit Ko 2 Invention cannot be found with the Corrected Inventions.

End of text.

(Attachment)

Corrected Matters in the Correction

1. Concerning the term "substantially polygonal shape" in the matter, "the opening for the bearing unit of the drawing die has a substantially polygonal cross-sectional shape," in Claim 1 before Correction, corrected matter 1 is a correction to add C-2 in Claim 1 after the Correction, "wherein the substantially polygonal shape is a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature." In addition, Claims 2 through 4 that cited Claim 1 and Claim 6 shall be corrected in the same way.

2. Corrected matter 2 is a correction to delete Claim 5.

3. Corrected matter 3 is a correction to correct "the substantially polygonal shape is replaced with a shape where all corners of the basic polygonal shape are replaced with those connected with a curved line" in Claim 6 before the Correction to "the substantially polygonal shape is replaced with a shape where all corners of the basic polygonal shape are replaced with those connected with a circular arc."

4. Corrected matter 4 is a correction concerning "a substantially cylindrical shaped drawing die that has an opening for the bearing with a substantially polygonal cross-sectional shape" in Claim 7 before the Correction, to add C-2 in Claim 7 after the Correction, "wherein the substantially polygonal shape is replaced with a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature." In addition, Claims 9 through 12 that cited Claim 7 shall be corrected in the same way.

5. Corrected matter 5 is a correction concerning "a substantially cylindrical shaped drawing die that has an opening for the bearing with a substantially polygonal cross-sectional shape" in Claim 8 before the Correction, to add C-2 in Claim 8 after the Correction, "wherein the substantially polygonal shape is replaced with a shape where at least one corner of the basic polygonal shape is replaced with one connected with a circular arc with a 0.8 mm radius of curvature." In addition, Claims 9 through 12 that cited Claim 8 shall be corrected in the same way.

End of text.