Trial decision

Invalidation No. 2012-800135

Tokyo, Japan
Demandant Nabtesco Corporation

Attorney TAKEDA, Minoru

Attorney ISOBE, Kensuke

Attorney SUZUKI, Yoshikazu

Attorney UENO, Junichi

Tokyo, Japan
Demandee SUMITOMO HEAVY INDUSTRIES LTD.

Patent Attorney ITO, Tadashige

Patent Attorney YAMAGUCHI, Akinori

Patent Attorney ONUKI, Shinsuke

Patent Attorney KATO, Takao

Patent Attorney SASAKI, Sadao

Patent Attorney KIDA, Hiroshi

Patent Attorney ITOH, Tadahiko

The decision on the case of the patent invalidation trial between the above parties on Japanese Patent No. 4897747, entitled "OSCILLATION TYPE PLANETARY GEAR DEVICE", dated October 30, 2013 came with a court decision of revocation of the trial decision (2013 (Gyo-Ke) 10330, rendition of decision on

March 11, 2015) at the Intellectual Property High Court, the case was proceeded further, and another trial decision was handed down as follows.

Conclusion

The correction of the specification and scope of claims of the Japanese Patent No. 4897747 shall be approved as the corrected specification and scope of claims attached to the written correction request.

The patent for the invention according to Claims 1 and 2 of Japanese Patent No. 4897747 shall be invalidated.

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

Reason

No. 1 History of the procedures

The application relating to the Patent No. 4897747 (hereinafter referred to as "the Application") is a divisional application submitted on July 11, 2008 from Japanese Patent Application No. 2003-90065 filed on March 28, 2003. The establishment of patent right for the invention was registered on January 6, 2012 (Number of claims: 2).

The summary of the history of subsequent procedures of the case is as follows.

1. August 29, 2012 Demand for trial of the case
2. September 27, 2012 Written amendment (Demandant)
3. November 30, 2012 Written reply of the trial case
4. November 30, 2012 Written correction request
5. January 31, 2013 Written refutation of the trial case
6. March 7, 2013 Notification of matters to be examined
(Date of mailing: March 11, 2013)
7. February 27, 2013 Notification of reasons for invalidation, Notice of result of a proceeding by ex officio
(Date of mailing: March 14, 2013)
8. April 15, 2013 Written opinion (Demandee)
9. April 23, 2013 Oral proceedings statement brief (Demandant)
10. April 23, 2013 Oral proceedings statement brief (Demandee)
11. May 14, 2013 Oral proceeding
12. May 28, 2013 Advance notice of trial decision (Date of mailing: May 31, 2013)

13. August 1, 2013 Written correction request
14. August 1, 2013 Written statement (Demandee)
15. September 13, 2013 Written refutation of the trial case (2)
16. October 30, 2013 Trial decision (Date of mailing: November 7, 2013)
17. March 11, 2015 Court decision of revocation of the trial decision (2013 (Gyo-Ke) 10330) at the Intellectual Property High Court
18. March 27, 2015 Written motion for correction request
19. April 22, 2015 Written correction request, Written statement (Demandee)
20. June 8, 2015 Written refutation, Written statement (Demandant)
21. July 22, 2015 Notification of reasons for invalidation, Notice of result of a proceeding by ex officio
(Date of mailing: July 24, 2015)
22. August 21, 2015 Written opinion (Demandee)
23. August 24, 2015 Written opinion (Demandant)
24. October 15, 2015 Advance notice of trial decision (Date of mailing: October 19, 2015)
25. December 18, 2015 Written statement. Description of evidence (Demandee)

No. 2 Demandant's allegation

In the written demand for trial, the demandant demands the decision, "The patent for the invention described in Claims 1 and 2 of the scope of claims of Japanese Patent No. 4897747 shall be invalidated. The costs in connection with the trial shall be borne by the demandee." According to the written demand for trial, the written amendment as of September 27, 2012, the written refutation of the trial case as of January 31, 2013, the oral proceedings statement brief, the oral proceeding, the written refutation of the trial case (2) as of September 13, 2013, the written refutation of the trial case as of June 8, 2015, and the written opinion as of August 24, 2015, the reasons for invalidation alleged by the demandant are outlined as follows.

1 Reasons for invalidation 1 (violation of Article 17-2(3) of the Patent Act (addition of new matter))

The amendment as of September 24, 2009 (hereinafter referred to as "the Amendment") includes amending the "internal teeth oscillation type inner gearing planetary gear device" in Claim 1 of the scope of claims to an "oscillation type

planetary gear device", and expands an object of the invention to a generic concept "oscillation type planetary gear device" including an "external teeth oscillation type planetary gear device".

Regarding the "oscillation type planetary gear device", the specification, scope of claims, and drawings originally attached to the Patent application (hereinafter referred to as "original specification") includes a description only about the "internal teeth oscillation type inner gearing planetary gear device", and does not describe the "external teeth oscillation type planetary gear device", which is not a matter obvious from the description in the original specification.

Accordingly, the invention according to Claim 1 after the amendment includes an invention which is not described in the original specification. Thus, the Amendment is illegal, exceeding the scope of the description in the original specification. The same applies to Claim 2, which depends from Claim 1.

2 Reasons for invalidation 2 (Article 29(2) of the Patent Act (easily-conceived property))

(1) Patent Invention 1 could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 5, matters described in Evidence A No. 5, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent Invention 1, "the transmitting external gear is supported by the output shaft via bearings", is as follows: "In [0013] of Evidence A No. 5, a ring member 18 is described as an output shaft which outputs rotation reduced by an eccentric differential reducer. In [0016] of the same document, it is described that a ring gear 48 (corresponding to a transmitting external gear) is arranged in a holding member 14 via bearings 46. Thus, Evidence A No. 5 describes a configuration where 'a ring member 18 is used as an output shaft, and a ring gear 48 is supported by a holding member 14 via bearings'. Furthermore Evidence A No. 5 ([0025]) describes that the ring member 18 is fixed and the holding member 14 can be used as an output shaft. When the configuration where the holding member 14 is fixed and the ring member 18 is used as an output shaft is changed to the configuration where the ring member 18 is fixed and the holding member 14 is used as an output shaft, the ring gear 48 is supported by the holding member 14 serving as an output shaft, via bearings. Therefore, the configuration where 'a ring gear 48 is supported by a holding member 14 serving as an output shaft, via bearings' has been already described." (Written refutation of the trial case (2) as of September 13, 2013 p. 7 l. 8-p. 8 l. 12)

(2) Patent Invention 2 could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 5, matters described in Evidence A No. 5, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent Invention 2, "In a radial direction of the transmitting external gear, the motor shaft is arranged outside the intermediate shaft", is as follows: "In a drive mechanism for transmitting rotation from a motor to a reducer, it is well-known that an intermediate shaft is arranged in parallel at a position different from a rotating center axis. Evidence A No. 5 describes a technical idea to arrange an output shaft of a servo motor offset outside from the center in a radial direction. Therefore, when an intermediate shaft is arranged, it is natural to select a configuration of arranging an output shaft of a servo motor outside from an intermediate shaft in a radial direction." Written refutation of the trial case (2) as of September 13, 2013 p. 10 l. 3-l. 18)

3 Reasons for invalidation 3 (Article 29(2) of the Patent Act (easily-conceived property))

(1) Patent Invention 1 could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 6, matters described in Evidence A No. 6, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18, or the invention described in Evidence A No. 7, matters described in Evidence A No. 7, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent Invention 1, "the transmitting external gear is supported by the output shaft via bearings", is as follows: "Evidence A No. 6 or No. 7 describes a configuration regarding an invention of an inner gearing planetary gear device where 'an output shaft 20 which outputs rotation reduced for an inner gearing planetary gear device'. In arranging a ring-shaped idle gear in the inner gearing planetary gear device, it is a design matter to select a member for supporting the idle gear via bearings. A person skilled in the art who has found Evidence A No. 6 or No. 7 could have easily conceived of, as a design matter of a person skilled in the art, employing the configuration where 'a ring-shaped idle gear is supported by an output shaft via bearings' in the invention of the inner gearing planetary gear device described in Evidence A No. 6 or No. 7." (Written refutation of the trial case (2) as of September 13, 2013 p. 11 l. 19-p. 13 l. 6)

(2) Patent Invention 2 could have been easily made by a person skilled in the art based

on the invention described in Evidence A No. 6, matters described in Evidence A No. 6, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18, or the invention described in Evidence A No. 7, matters described in Evidence A No. 7, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of the Patent invention 2, "In a radial direction of the transmitting external gear, the motor shaft is arranged outside the intermediate shaft", is as follows: "In a drive mechanism for transmitting rotation from a motor to a reducer, it is well-known that an intermediate shaft is arranged in parallel at a position different from a rotating center axis. Evidence A No. 6 or No. 7 describes a technical idea to arrange a shaft with a pinion incorporated therein on a driving source-end, which is connected to a motor, offset outside from the center in a radial direction. Therefore, when an intermediate shaft is arranged, it is natural to select a configuration of arranging a shaft with a pinion incorporated therein on a driving source-end outside from an intermediate shaft in a radial direction." (Written refutation of the trial case (2) as of September 13, 2013 p. 14 l.3-l. 19)

4 Regarding the correction request as of April 22, 2015

Demandant alleges that the correction, which is made beyond the scope of matters described in the specification, violates the requirements of correction and cannot be approved. (Written refutation as of June 8, 2015 p. 10 l. 23-p. 18 l. 17)

5 Means of proof submitted by the demandant

[Means of proof]

Evidence A No. 1: Japanese Unexamined Patent Application Publication No. H4-41106

Evidence A No. 2: Microfilm of Japanese Utility Model Application No. H1-127466 (Japanese Unexamined Utility Model Application Publication No. H3-65039)

Evidence A No. 3: Japanese Examined Utility Model Application Publication No. H8-3733

Evidence A No. 4: Japanese Unexamined Patent Application Publication No. 2000-280125

Evidence A No. 5: CD-ROM of Japanese Utility Model Application No. H4-50852 (Japanese Unexamined Utility Model Application Publication No. H6-6786)

Evidence A No. 6: Japanese Unexamined Patent Application Publication No. 2000-65159

Evidence A No. 7: Japanese Unexamined Patent Application Publication No. 2000-65158

Evidence A No. 8: Written amendment as of September 24, 2009 of the Application

Evidence A No. 9: Written statement as of September 24, 2009 of the Application

Evidence A No. 10: Written opinion as of July 11, 2008 of Japanese Patent Application No. 2003-90065

Evidence A No. 11: Written opinion of U.S. Patent Application No. 10/809713

Evidence A No. 12: Specification, scope of claims, and drawings attached to the application of the Patent

Evidence A No. 13-1: "Daijisen the first and expanded edition, new format" edited by Shogakukan "Daijisen" editorial department, Shogakukan Inc., published on November 20, 1998

Evidence A No. 13-2: "Daijirin the second edition, new format" edited by Akira MATSUMURA, Sanseido Co., Ltd., published on October 1, 1999

Evidence A No. 14: "Basics series 16, Basics of gear mechanism" written by Sadahiko TAKEDA, Power-sha, published on May 25, 1995

Evidence A No. 15: "Handbook of Mechanical Engineering A. Basic edition B. Applied edition, new edition", The Japan Society of Mechanical Engineers, published on April 15, 1987

Evidence A No. 16: Japanese Unexamined Patent Application Publication No. H8-52776

Evidence A No. 17: Japanese Unexamined Patent Application Publication No. H2-48193

Evidence A No. 18: Japanese Unexamined Patent Application Publication No. 2002-364717

Evidence A No. 19: Japanese Patent No. 2607937

Evidence A No. 20: Japanese Unexamined Patent Application Publication No. 2000-65158

Evidence A No. 21: New Annotation Patent Act [Supplementary volume], Commentary of the Patent Act revised in 2011 p. 158-p. 164 "Commentary on Article 164-2"

No. 3 Summary of the reasons for invalidation notified by the body

1 Reasons for invalidation in the Notification of reasons for invalidation as of February 27, 2013

(1) Reason A

Patent Invention 2 could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 5, the invention described in Evidence A No. 1, well-known prior arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18. Thus, the demandee should not be granted a patent for the invention under the provisions of Article 29(2) of the Patent Act.

(2) Reason B

Patent Invention 2 could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 6, the invention described in Evidence A No. 1, well-known prior arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18. Thus, the demandee should not be granted a patent for the invention under the provisions of Article 29(2) of the Patent Act.

2 Reasons for invalidation in the Notification of reasons for invalidation as of July 22, 2015

(1) Regarding sufficiency of requirements of divisional application

Corrected Invention 1 is not included in the original application. Thus, the application relating to the Patent does not satisfy the requirements of division.

(2) Regarding violation of Article 29(1)(iii) of the Patent Act

Since the Application does not satisfy the requirements of division, a filing date retroactive to the filing date of the original application cannot be accepted. The filing date of the Application is the submitting date of the Application, July 11, 2008.

Corrected Invention 1 and Corrected Invention 2, which are inventions described in Cited document (Japanese Unexamined Patent Application Publication No. 2004-293743), fall under the invention of Article 29(1)(iii) of the Patent Act. The demandee should not be granted a patent for the inventions.

No. 4 Demandee's allegation

In the written reply of the trial case, the demandee demands the decision, "The correction shall be approved. The trial of the case was groundless. The costs in connection with the trial shall be borne by the demandant." According to the written reply of the trial case, the written opinion as of April 15, 2013, the oral proceedings statement brief, the oral proceeding, the written statement as of August 1, 2013, the written statement as of April 22, 2015, the written opinion as of August 21, 2015, and the written statement as of December 18, 2015, the demandee's allegation is outlined

below.

1 Regarding Reason for invalidation 1 alleged by the demandant

Since it can be said that the original specification describes a "planetary gear device", the correction does not fall under the addition of new matter.

The description "a space for locating piping, wiring, etc. in the central portion of a device can be easily secured according to a particular application, and wherein further smoothness of power transmission can be achieved" (the original specification of the Application [0015] and the original specification of the original application [0015]) is not only a problem specific to an internal teeth oscillation type, but also a problem to an external teeth oscillation type (see Evidences A No. 2 to No. 5 and Evidence B No. 3). As prior art documents showing the presence of common technology for an internal teeth oscillation type planetary gear device and an external teeth oscillation type planetary gear device, there are Evidences B No. 4 to No. 6, for example.

The Patent invention focuses on a structure of rotating all of eccentric shafts in phase by distributing and transmitting rotation of an input shaft to a plurality of eccentric shafts. It is obvious that the invention does not depend on whether internal teeth or external teeth oscillate and rotate via an eccentric body.

2 Regarding Reason for invalidation 2 alleged by the demandant

(1) Patent Invention 1 is not an invention which could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 5, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent invention 1, "the transmitting external gear is supported by the output shaft via bearings", is as follows: "In the invention described in Evidence A No. 5, changing a ring gear (48) from an internal gear to an external gear, and modifying a configuration of supporting the ring gear (48) with a holding member (14a) via bearings (46) to a configuration of supporting the ring gear with a ring member (18) serving as an output shaft, via bearings, are fundamental modification of basic configuration of the device, which cannot be easily conceived by a person skilled in the art at all." (Written statement as of August 1, 2013 p. 9 l. 1-l. 5)

(2) Patent Invention 2 is not an invention which could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 5,

well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent Invention 2, "In a radial direction of the transmitting external gear, the motor shaft is arranged outside the intermediate shaft", is as follows: "The invention described in Evidence A No. 5 does not include a matter corresponding to the 'intermediate shaft' of Patent Invention 2, and does not describe positional relation between an output shaft and an intermediate shaft of a servo motor, at all." (Written statement as of August 1, 2013 p. 11 l. 22-l. 25)

3 Regarding Reason for invalidation 3 alleged by the demandant

(1) Patent Invention 1 is not an invention which could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 6, matters described in Evidence A No. 6, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18, or the invention described in Evidence A No. 7, matters described in Evidence A No. 7, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent Invention 1, "the transmitting external gear is supported by the output shaft via bearings", is as follows: "Evidences A No. 6 and No. 7 do not describe how to support a ring-shaped idle gear at all. In the structures of [FIG. 10] of Evidence A No. 6 and [FIG. 19] of Evidence A No. 7, since there is no space for supporting a ring-shaped idle gear with bearings on the output shaft 20, it is not easy for a person skilled in the art to derive the configuration." (Written statement as of August 1, 2013 p. 14 l. 27-l. 31)

(2) Patent Invention 2 is not an invention which could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 6, matters described in Evidence A No. 6, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18, or the invention described in Evidence A No. 7, matters described in Evidence A No. 7, well-known arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

The allegation about the configuration of Patent Invention 2, "In a radial direction of the transmitting external gear, the motor shaft is arranged outside the intermediate shaft", is as follows: "The inventions described in Evidences A No. 6 and No. 7 do not include a matter corresponding to the 'intermediate shaft' of Patent Invention 2, and Evidences A No. 6 and No. 7 do not describe the positional relation between an output shaft and an intermediate shaft of a servo motor, at all." (Written statement as of August 1, 2013 p. 17 l. 1-l. 4)

4 Regarding the reasons for invalidation notified by the body

(1) Reasons for invalidation in the notification of reasons for invalidation as of February 27, 2013

(1-1) Reason A

Patent Invention 2 is not an invention which could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 5, the invention described in Evidence A No. 1, well-known prior arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

A The allegation about the "transmitting external gear" in Patent Invention 2 (the matters specifying the invention of Patent Invention 1) is as follows: "In changing the ring gear 48 of Evidence A No. 5 from an internal gear to an external gear, it is technically difficult to change the ring gear 48 from an internal gear to an external gear due to absence of space between a super gear 38 and a first drive shaft 60. Thus, the change is not a design matter which can be appropriately selected in accordance with design contents or concrete structure of the device." (Written opinion as of April 15, 2013 p. 3 l. 6-p. 4 l. 2)

B The allegation about the configuration of Patent Invention 2 (the matters specifying the invention of Patent Invention 1), " the driving source-end pinion, the transmitting external gear, and a plurality of eccentric shaft gears mesh with each other on the same plane", is as follows: "Even if the spline clutch shaft 54 in the invention described in Evidence A No. 1 is applied as an intermediate shaft, the input gear 52, the ring gear 48, and a plurality of super gears 38 are not meshed on the same plane. If the ring gear 48 is changed from an internal gear to an external gear to configure the input gear 52, the ring gear 48, and a plurality of super gears 38 to be meshed on the same plane, an interference with surrounding other members or increase in size of the device in a radial direction may occur." (Written opinion same as above p. 4 l. 18-p. 5 l. 9)

C The allegation is as follows: "There is close relations between the configuration of 'transmitting external gear', the configuration of 'intermediate shaft', and the configuration where ' the driving source-end pinion, the transmitting external gear, and a plurality of eccentric shaft gears mesh with each other on the same plane'. The configurations, which should be grasped integrally, are divided into pieces for

determination, resulting in lack of consistency." (Written opinion same as above p. 6 l. 8-l. 12)

(1-2) Reason B

Patent invention 2 is not an invention which could have been easily made by a person skilled in the art based on the invention described in Evidence A No. 6, the invention described in Evidence A No. 1, well-known prior arts, and matters described in Evidence A No. 13-1 to Evidence A No. 18.

A The allegation about the configuration of Patent Invention 2 (the matters specifying the invention of Patent Invention 1), "a hollow central portion", is as follows: "It is obvious that the invention to be grasped from [0012], [FIG. 10] and [FIG. 11] of Evidence A No. 6 does not show that 'a hollow central portion'." (Written opinion as of April 15, 2013 p. 7 l. 31-p. 8 l. 15)

B The allegation about the configuration of Patent Invention 2 (the matters specifying the invention of Patent Invention 1), " the driving source-end pinion, the transmitting external gear, and a plurality of eccentric shaft gears mesh with each other on the same plane", is as follows: "If the 'spline clutch shaft 54' in the invention described in Evidence A No. 1 is employed as an 'intermediate shaft', an input gear 11 corresponding to a ring-shaped idle gear in the invention described in Evidence A No. 1, is applied as a ring-shaped idle gear described in [0012] of Evidence A No. 6. In this case, the configuration 'the pinion 6, the ring-shaped idle gear, and a plurality of transmitting gears 7 mesh with each other on the same plane' is not implemented." (Written opinion same as above p. 8 the last line to p. 11 l. 9)

(2) Reasons for invalidation in the notification of reasons for invalidation as of July 22, 2015

Corrected Invention 1 is included in the original application and satisfies the requirements of division. Thus, a filing date of the Application is retroactive to the filing date of the original application. Therefore Japanese Unexamined Patent Application Publication No. 2004-293743 (Date of publication: October 21, 2004) was published after the filing date of the Application, and Corrected Invention does not fall under the invention of Article 29(1)(iii) of the Patent Act.

A The allegation is as follows: "The basic configuration of 'external gear oscillation

type planetary gear device' and the configuration where 'a cylindrical member which integrally rotates with an output shaft is arranged to form a hollow structure in the central part without forming an input shaft and a driving source in a hollow structure' are, as described in Evidences B No. 7, No. 10 ..., in the technical field of oscillation type planetary gear devices at the time of filing of the original application, as well as the most common technical knowledge ... a configuration of applying a power transmission system, from the driving source-end pinion to an eccentric shaft, to an external teeth oscillating gear, is obvious to a person skilled in the art from the description in the original specification of the original application and the common general technical knowledge, as indicated in Evidence B No. 8." (Written opinion as of August 21, 2015 p. 5 l. 9-l. 36)

B The allegation is as follows: "Corrected Invention 1, which is common to the case of using 'internal teeth' and the case of using 'external teeth' in an oscillating gear, is made within the scope of matters described in the original specification of the original application and it is obvious to a person skilled in the art that the Corrected invention 1 can be applied to an external teeth oscillation type planetary gear device. Thus, Corrected Invention 1 is an invention described in the original specification of the original application." (Written opinion, same as above, p. 6 l. 2-l. 5)

C The allegation is as follow: "The presence of technology common to both 'internal teeth oscillation type' and 'external teeth oscillation type' should be considered." (Written opinion p. 12, the last line to p. 13 l. 6)

(3) Regarding the advance notice of trial decision as of October 15, 2015

A In an external gear oscillation type planetary gear device, the matters "how an oscillation type planetary gear is configured so that 'the central part is a hollow structure'" (Corrected Invention 1), "how to implement the configuration 'without forming an input shaft and a driving source in a hollow structure'", "how a driving source-end pinion and an intermediate shaft are arranged", and "how the intermediate shaft is rotated", are obvious. (Written statement as of December 18, 2015, p. 7 l. 25-p. 11 l. 27)

B Applying Corrected Invention 1 to a type-2 external teeth oscillation type planetary gear device is, in a relation with the matters to be derived by integrating all descriptions of the original specification of the original application, not to introduce a

new technical matter. (Written opinion, same as above, p.11 l. 28-p. 12 l. 13)

C Corrected Invention 1 is a technology common to both type-2 internal gear oscillation type and type-2 external teeth oscillation type. (Written opinion, same as above, p. 12 l. 14-p. 13 l. 3)

5 Means of proof submitted by the demandee

[Means of proof]

Evidence B No. 1: Japanese Unexamined Patent Application Publication No. 2008-249149

Evidence B No. 2: Japanese Unexamined Patent Application Publication No. 2004-293743

Evidence B No. 3: Japanese Unexamined Patent Application Publication No. 2002-317857

Evidence B No. 4: Japanese Examined Patent Publication No. H5-86506

Evidence B No. 5: Japanese Patent No. 2707473

Evidence B No. 6: Japanese Patent No. 2739071

Evidence B No. 7: Japanese Patent No. 3659707

Evidence B No. 8: Prior art described in the specification and drawings originally attached to the original application, and schematic diagrams of Corrected Invention 1

Evidence B No. 9: Prior art described in the specification and drawings originally attached to the application of the Patent, and schematic diagrams of the Patent invention

Evidence B No. 10: Japanese Unexamined Patent Application Publication No. 2002-106650

Evidence B No. 11: Japanese Unexamined Patent Application Publication No. 2001-353684

Evidence B No. 12: High rigidity reducer for precise control RV SERIES Technical documents

Evidence B No. 13: Japanese Unexamined Patent Application Publication No. H7-124883

Evidence B No. 14: Demandee's Brief (3) as of October 6, 2014 in 2013 (Gyo-Ke) 10330 a request to revoke the trial decision

No. 5 Regarding the correction request

1 Details of correction request on April 22, 2015

Details of the correction requested by the demandee are as described in the following Corrections A-C.

(1) Correction A

Claim 1 of the scope of claims is corrected as follows.

"[Claim 1]

An oscillation type planetary gear device having a hollow central portion, and configured to oscillatingly rotate an oscillating gear via eccentric bodies arranged in each of eccentric shafts, comprising:

a casing;

eccentric shaft gears incorporated on each of the plurality of eccentric shafts;

a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion;

an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel at a position different from a rotating center axis of the transmitting external gear; and

an output shaft which is supported rotatably by the casing inside the casing, and outputs rotation reduced in the oscillation type planetary gear device,

wherein the transmitting external gear is formed of a single gear, and supported by the output shaft via bearings,

the intermediate shaft is rotated to rotate the driving source-end pinion, the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears, and

the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane."

(Corrected portions are underlined. The same applies hereafter.)

(2) Correction B

Claim 2 of the scope of claims is corrected as follows.

"[Claim 2]

An oscillation type planetary gear device having a hollow central portion, and configured to oscillatingly rotate an internal teeth oscillating gear via eccentric bodies arranged in each of eccentric shafts, comprising:

eccentric shaft gears incorporated on each of the plurality of eccentric shafts;

a transmitting external gear meshing concurrently with the eccentric shaft

gears and a driving source-end pinion;

an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel in a position different from a rotating center axis of the transmitting external gear;

an output shaft which outputs rotation reduced in the oscillation type planetary gear device; and

an external gear meshing with the internal teeth oscillating gear and functioning also as the output shaft,

wherein the transmitting external gear is formed of a single gear, and supported by the output shaft via bearings,

the intermediate shaft is rotated to rotate the driving source-end pinion, the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears,

the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane, and

the intermediate shaft includes a gear meshing with a pinion which is rotated integrally with a motor shaft of a motor connected to the oscillation type planetary gear device."

(3) Correction C

Paragraph [0016] of the specification attached to the application is corrected as follows.

"The present invention solves the above problem by configuring an oscillation type planetary gear device having a hollow central portion and configured to oscillatingly rotate an oscillating gear via eccentric bodies arranged in each of eccentric shafts, comprising: a casing; eccentric shaft gears incorporated on each of the plurality of eccentric shafts; a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion; an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel at a position different from a rotating center axis of the transmitting external gear; and an output shaft which is supported rotatably by the casing inside the casing, and outputs rotation reduced in the oscillation type planetary gear device, wherein the transmitting external gear is formed of a single gear, and supported by the output shaft via bearings, the intermediate shaft is rotated to rotate the driving source-end pinion, the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears, the driving source-end pinion, the transmitting external gear, and the

plurality of eccentric shaft gears mesh with each other on the same plane."

2 Judgment on Propriety of Correction

(1) Regarding Correction A

Correction A is to add limitation, "a hollow central portion", regarding the configuration of the central part of the "oscillation type planetary gear device", which is a matter necessary for specifying the invention described in Claim 1,

to add limitation to include "a casing" and "an output shaft which is supported rotatably by the casing inside the casing, and outputs rotation reduced in the oscillation type planetary gear device" regarding the "oscillation type planetary gear device", to add limitation, "supported by the output shaft via bearings", regarding the transmitting external gear,

and to add limitation, "the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane", regarding the "driving source-end pinion", "transmitting external gear" and "eccentric shaft gears". The correction is intended for restriction of the scope of claims.

Correction A is made within the scope of matters described in the specification, the scope of claims, or drawings attached to the application, and does not substantially enlarge or alter the scope of claims.

(2) Regarding Correction B

Correction B is to alter Claim 2 from a dependent claim to an independent claim, and to add limitation, "a hollow central portion", regarding the configuration of the central part of the "oscillation type planetary gear device", which is a matter necessary for specifying the invention described in Claim 2,

to add limitation to include "an output shaft which outputs rotation reduced in the oscillation type planetary gear device" and "an external gear meshing with the internal teeth oscillating gear and functioning also as the output shaft" regarding the "oscillation type planetary gear device", to add limitation, "supported by the output shaft via bearings", regarding the transmitting external gear, and to add limitation, "the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane", regarding the "driving source-end pinion", "transmitting external gear" and "eccentric shaft gears". The correction is intended for restriction of the scope of claims.

Correction B is made within the scope of matters described in the specification, the scope of claims, or drawings attached to the application, and does not substantially enlarge or alter the scope of claims.

(3) Regarding Correction C

Correction C is intended to maintain consistency between the description of the scope of claims and the description of the detailed description of the invention, in response to Correction A. The correction is intended for clarification of an ambiguous statement.

Correction C is made within the scope of matters described in the specification, the scope of claims, or drawings attached to the application, and does not substantially enlarge or alter the scope of claims.

3 Summary

In light of the above, the Correction aims at matters listed in items (i) and (iv) of the proviso to Article 134-2(1) of the Patent Act and falls under the provisions of Article 126(5) and (6) of the Patent Act, which is applied mutatis mutandis in the provisions of Article 134-2(9). Therefore, the Correction shall be approved as a legal correction.

No. 6 Corrected invention

As described above, the Correction shall be approved. Thus, the inventions according to Claims 1 and 2 of the Patent are specified by the matters described in Claims 1 to 2 of the scope of claims described in "No. 5". (Hereinafter referred to as "Corrected Invention 1" and "Corrected Invention 2").

No. 7 Judgment by the body

The reasons for invalidation in the notification of reasons for invalidation as of July 22, 2015 are examined below.

1 Regarding sufficiency of requirements of divisional application

In order to determine that Corrected Invention 1 and Corrected Invention 2 are included in Japanese Patent Application No. 2003-90065, which is a source of division, (hereinafter referred to as "original application"), it is required to examine whether the inventions are made within the scope of matters described in the specification and

drawings originally attached to the original application (hereinafter referred to as "original specification of the original application", see Japanese Unexamined Patent Application Publication No. 2004-293743), or to examine whether the inventions do not introduce new technical matter in relation with the matters to be derived by integrating all descriptions in the original specification of the original application.

(1) Regarding the matters described in the original specification of the original application.

The original specification of the original application includes the following description.

A "[Scope of claims]
[Claim 1]
An internal teeth oscillating inner gearing planetary gear device, comprising:

an external gear,

an internal gear having a slight difference in the number of teeth with the external gear, and

eccentric shafts oscillatingly rotating the internal gear, and

configured to oscillatingly rotate the internal gear around the external gear via eccentric bodies arranged on the eccentric shafts,

a plurality of the eccentric shafts being arranged in parallel with an axial center of the external gear,

comprising eccentric shaft gears incorporated on each of the plurality of eccentric shafts, respectively, and

a transmitting external gear meshing concurrently with the eccentric shaft gears and the driving source-end pinion,

wherein rotation of the driving source-end pinion is transmitted concurrently to the plurality of eccentric shaft gears through the transmitting external gear.
[Claim 2]
The internal teeth oscillating inner gearing planetary gear device according to Claim 1, wherein

the transmitting external gear is formed in a ring shape, and is rotatably supported by an outer circumference of any one of the external gear and an output shaft.
[Claim 3]
The internal teeth oscillating inner gearing planetary gear device according to Claim 2,

wherein

external teeth of the external gear are formed by external pins inserted to be freely rotatable in circular grooves thereof, and the external pins are configured to serve as rollers of bearings for the transmitting external gear.

[Claim 4]

The internal teeth oscillating inner gearing planetary gear device according to any one of Claims 1 to 3, wherein

two or more internal teeth oscillating bodies are incorporated axially, and the transmitting external gear is located between any two of the internal teeth oscillating bodies.

[Claim 5]

The internal teeth oscillating inner gearing planetary gear device according to any one of Claims 1 to 4,

wherein the plurality of eccentric shafts are located circumferentially at equal intervals.

[Claim 6]

The internal teeth oscillating inner gearing planetary gear device according to any one of Claims 1 to 5, further comprising

an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel to the output shaft at a position radially outward of the internal teeth oscillating body, and configured to drive the transmitting external gear by rotating the intermediate shaft, through the driving source-end pinion.

[Claim 7]

The internal teeth oscillating inner gearing planetary gear device according to any one of Claims 1 to 5,

wherein a pinion incorporated on the input shaft directly meshes with the transmitting external gear as the driving source-end pinion."

B "[0001]

[Field of the Invention]

The present invention relates to an internal teeth oscillating inner gearing planetary gear device.

[0002]

[Conventional Art]

Conventional inner gearing planetary gear devices are found widely in various areas where reducers are used, owing to the advantages of large torque transmission

capability and large reduction ratios being obtainable.

[0003]

Among such devices, internal teeth oscillating-type inner gearing planetary gear devices are known wherein rotation of an input shaft is reduced and delivered from an output member through oscillatingly rotating internal teeth oscillating bodies around an external gear, the internal teeth oscillating body having a slight difference in the number of teeth from the external gear (e.g., see Patent Document 1).

[0004]

An example of the same gear device will now be explained by reference to FIGS. 4 and 5.

[0005]

In the drawings, a casing 1 has a first support block 1A and a second support block 1B joined together by insertion of engaging members such as bolts or pins (not shown) into engaging holes 2. A pinion 6 is disposed on the end of an input shaft 5, and the pinion 6 meshes with a plurality of eccentric shaft gears (eccentric shaft driving gear) 7 disposed at equal angles around the input shaft 5.

[0006]

In the casing 1, three eccentric shafts 10 are disposed circumferentially at equal-angled intervals (120 degree intervals). The eccentric shafts 10 are supported to be freely rotatable at both axial ends by bearings 8 and 9, and have eccentric bodies 10A and 10B which are in an axially midway portion thereof. The transmitting gears 7 are joined to respective end portions of the eccentric shafts 10. The transmitting gears 7 are rotated by the rotation of the input shaft 5, to rotate each of the eccentric shafts 10.

[0007]

The eccentric shafts 10 pass through eccentric holes 11A and 11B of two internal teeth oscillating bodies 12A and 12B contained in the casing 1, respectively. Rollers 14A and 14B are disposed between outer circumferences of the two eccentric bodies 10A and 10B adjoined in the axial direction of the eccentric shafts 10 and inner circumferences of the through holes of the internal teeth oscillating bodies 12A and 12B, respectively.

[0008]

An external gear 21 integrated with the end of an output shaft 20 is disposed at the central portion inside the casing 1. Internal teeth 13 formed from pins of the internal teeth oscillating bodies 12A and 12B mesh with external teeth 23 of the external gear 21. A difference in the number of teeth between the external teeth 23 of the external

gear 21 and the internal teeth 13 of the internal teeth oscillating bodies 12A and 12B is set to be slight (for example, in a range of about 1 to 4).

[0009]

The gear device operates in the following manner.

[0010]

Rotation of the input shaft 5 is delivered to the eccentric shaft gears 7 through the pinion 6. The eccentric shafts 10 are then rotated by the eccentric shaft gears 7. The eccentric bodies 10A and 10B rotate due to rotation of the eccentric shafts 10, then the internal teeth oscillating bodies 12A and 12B oscillatingly rotate due to the rotation of the eccentric bodies 10A and 10B. Since rotation of the internal teeth oscillating bodies 12A and 12B is restricted, through one rotation of the oscillating rotation of the internal teeth oscillating bodies 12A and 12B, a phase of the external gear 21 which meshes with the internal teeth oscillating bodies 12A and 12B is shifted by the difference in the number of teeth. Thus, a rotation component equivalent to the phase difference becomes the (reduction) rotation of the external gear 21, and reduced output is delivered from the output shaft 20.

[0011]

However, with this type of internal teeth oscillating-type inner gearing planetary gear device, eccentric shafts for oscillating internal teeth oscillating bodies do not necessarily need to be located at equal intervals circumferentially, nor do all eccentric shafts need to be directly driven. A portion thereof may be driven by following rotation of another component. FIG. 5 shows an example of a construction in which a non-driven eccentric shaft 50A is included and in which eccentric shafts 50A through 50C are located circumferentially at non-equal intervals. As another example, a construction is shown in FIG. 6 in which an internal teeth oscillating body 62 is oscillatingly driven by only two eccentric shafts 60A and 60B. These examples are disclosed in Patent Document 2, for example."

C "[0013]

[Problem to be solved by the invention]

However, with the gear device disclosed in the Patent Document 1, because the three eccentric shaft gears 7 being located circumferentially at equal intervals are rotated by the single (pinion 6 of the) input shaft 5, the input shaft is located coaxially with the output shaft, and thus there was difficulty in creating a design having a hollow shaft passing through the entire gear device. For example, for use as a gear device for joint drives in industrial robots, as a gear device for driving precision machinery, etc., there

is often a desire to pass wire harnesses, cooling water piping, etc. through a gear device to a partnered apparatus (driven machine). In such an instance, this meant that designing a driving source such as a motor connected to the input shaft a through-hole was also necessary to design an input shaft with a through-hole. In fact it was nearly impossible to form a large hollow shaft. Further, even if a hollow shaft were to be adopted, a space would be formed inside an input shaft rotating at high speed. It would thus be necessary to install protective piping which would be held so as not to rotate by separate bearings disposed between the protective piping itself and the inner circumference of the input shaft in order to locate, for example, wire harnesses and cooling water piping in the space. In this respect as well, it would be difficult to secure a large enough space, and there would also be cost increases.

[0014]

With regard to this matter, if a structure is adopted wherein eccentric shafts are located at non-equal intervals in the circumferential direction as described in the Patent Document 2, a larger diameter hollow shaft can be formed, since an input shaft does not necessarily need to be located coaxially with an output shaft. However, when internal teeth oscillating bodies are driven by a structure wherein the eccentric shafts are located circumferentially at non-equal intervals, a practical problem was encountered in that it was difficult to smoothly oscillate the internal teeth oscillating bodies in a well-balanced manner around the external gear in devices manufactured through a normal manufacturing process. It was therefore necessary to process and assemble each member with especially high precision.

[0015]

The present invention is devised to solve this problem. It is an object of the present invention to provide an internal teeth oscillating inner gearing planetary gear device wherein a space for locating piping, wiring, etc. in the central portion of a device can be easily secured according to a particular application, and wherein further smoothness of power transmission can be achieved.

[0016]

[Means for solving the problem]

The present invention provides an internal teeth oscillating inner gearing planetary gear device which has an external gear, and an internal gear having a slight difference in the number of teeth with the external gear, and eccentric shafts for oscillatingly rotating the internal gear. The internal gear is oscillatingly rotated around the external gear through eccentric bodies located on the eccentric shafts. The gear device comprises a plurality of the eccentric shafts provided parallel to an axis of the external

gear, eccentric shaft gears incorporated on each of the plurality of eccentric shafts, respectively, and a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion. The gear device is configured such that rotation of the driving source-end pinion is transmitted concurrently to the plurality of eccentric shaft gears through the transmitting external gear. Thereby the above-mentioned problems are solved. Further, 'slight difference in the number of teeth' herein refers to a difference in the number of teeth within a range of 1 to 6.

[0017]

According to the present invention, the axis of the driving source-end pinion can be offset to a position radially outward of the transmitting external gear. As a result, the axis of an input shaft (or an output shaft of a driving source) can be removed from the axis of an output shaft. Thus, a hollow structure is not necessary for the input shaft or the driving source, a large diameter hollow shaft can thus be easily formed in an output shaft. Particularly, since it is not necessary to form the input shaft (which rotates at a high speed) in a hollow structure, rotation speed of an inner wall existing in the space formed in the central portion of the gear device can be made very slow. Further, there is no need to provide protecting pipes and the like separately. Therefore, a larger space can be secured at lower cost.

[0018]

Since all the eccentric shafts can then be "driven equally", internal teeth oscillating bodies can be oscillatingly driven smoothly in a well-balanced manner.

[0019]

Further, it may be more preferable to adopt a structure wherein the transmitting external gear is formed in a ring shape, and is rotatably supported by an outer circumference of any one of the external gear and the output shaft. Thus, even in the instance of a large diameter hollow shaft being formed, the transmitting external gear can be easily incorporated in the device without hindrance."

D "[0023]

Also, how the transmitting external gear is driven specifically is not limited in particular according to the present invention. As regards this, for example, a structure may be adopted wherein an intermediate shaft, on which the driving source-end pinion is incorporated, is provided parallel to the output shaft and at a position radially outward of the internal teeth oscillating bodies. By rotatingly driving the intermediate shaft, the transmitting external gear can be driven through the driving source-end pinion. Alternatively, a structure may be adopted wherein a pinion

incorporated on an input shaft directly meshes with and drives the transmitting external gear as the driving source-end pinion.

[0024]

[Embodiments of the invention]

An embodiment of the present invention will now be described with reference to the drawings.

[0025]

FIGS. 1 and 2 show an internal teeth oscillating inner gearing planetary gear device (hereafter, simply gear device) 100 according to one embodiment of the present invention. FIG. 1 is a side cross-sectional view of the gear device 100, and FIG. 2 is a cross-sectional view taken along the line II-II in FIG. 1.

[0026]

The gear device 100 mainly comprises a main body casing 102, an input shaft 104, a parallel shaft gear set 106, an intermediate shaft 108, a transmitting external gear 110, eccentric shaft driving gears (eccentric shaft gears) 112, three eccentric shafts 114 (114A to 114C) driven by the eccentric shaft driving gears 112, two internal teeth oscillating bodies (internal gears) 116A and 116B, and an external gear 118 which also functions as an output shaft.

[0027]

That is, the gear device 100 comprises three eccentric shafts 114 passing through the internal teeth oscillating bodies 116A and 116B for oscillatingly rotating the internal teeth oscillating bodies 116A and 116B, and by distributing and transmitting rotation of the input shaft 104 to the eccentric shafts 114A to 114C, all of the eccentric shafts 114A to 114C are rotated in phase.

[0028]

Differing greatly from the previously discussed example of the prior art is the power transmission structure from the input shaft 104 to the eccentric shafts 114A to 114C and the casing structure of the entire gear device. These points will now be discussed.

[0029]

The main body casing 102 comprises a first casing 102A and a second casing 102B located on the left and right respectively in FIG. 1. As shown in FIG. 2, a plurality of bolt holes 102A1 are each formed in the first casing 102A and the second casing 102B so as to pass therethrough. The first casing 102A and the second casing 102B are configured to be mutually joinable by bolts (not shown).

[0030]

In the main body casing 102, the input shaft 104 is oriented laterally in FIG. 1; that is, parallel with the external gear (output shaft), and is supported to be freely rotatable by bearings 120 and 122. A pinion 104A is formed at the end of the input shaft 104 (left in drawing). An insertion opening 104B is formed at the other end thereof in which an output shaft of a motor M (details are not shown) is inserted.

[0031]

Also in the main body casing 102, besides the input shaft 104, the intermediate shaft 108 is located in parallel with the external gear (output shaft) 118 at a position more radially outward than the internal teeth oscillating bodies 116A and 116B. The intermediate shaft 108 is supported to be freely rotatable by taper roller bearings 124, 124. A gear 128 is incorporated on the intermediate shaft 108 and meshes with the pinion 104A to form the parallel shaft gear set 106. Further, an intermediate pinion (a driving source-end pinion in this embodiment) 130 is incorporated thereon.

[0032]

The ring-shaped transmitting external gear 110 is located at the outer circumference of the external gear (output shaft) 118 and coaxially with the external gear 118 through a bearing 132. The intermediate pinion 108 as well as the eccentric shaft driving gears 112 incorporated on each of the three eccentric shafts 114A to 114C concurrently mesh with the transmitting external gear 110. That is, the transmitting external gear 110 is linked to the intermediate shaft 108 via the intermediate pinion 130, and is also linked to each of the eccentric shafts 114A to 114C via the eccentric shaft driving gears 112.

[0033]

The eccentric shafts 114A to 114C are located at equal intervals on the same circumference (see FIG. 2), each being supported at both ends by taper roller bearings 136, 136. Each of the eccentric shafts 114A to 114C axially passes through eccentric holes 116A1 and 116B1 of the internal teeth oscillating bodies 116A and 116B. Eccentric bodies 140A and 140B are integrally incorporated on each of the eccentric shafts 114A to 114C. The phases of the eccentric bodies 140A and 140B of each of the eccentric shafts 114A to 114C are arranged so that the three eccentric shafts 114 can rotate in phase at the same time in the same direction. Also, the two internal teeth oscillating bodies 116A and 116B are oscillatingly rotatable while maintaining a mutual 180-degree phase difference by sliding with the eccentric bodies 140A and 140B. Further, reference number 119 in the drawings designates an insert ring for regulating axial movement of the two internal teeth oscillating bodies 116A and 116B.

[0034]

The external gear 118 also functioning as a hollow-shaft type output shaft internally

meshes with the internal teeth oscillating bodies 116A and 116B. The external gear 118 is made up from a substantially tubular member having a through-hole 118D through which piping, wiring, etc. are passable. The external gear is supported to be freely rotatable by the main body casing 102 through taper roller bearings 142, 142.

[0035]

External teeth of the external gear 118 are configured by external pins 118P incorporated to be freely rotatable in grooves 118H. The number of the external pins 118P (number of external teeth) is 90, being less than the number of teeth (92) of the internal teeth of the internal teeth oscillating bodies 116A and 116B by two (slight difference in the number of teeth). The external gear 118 is made up of three members, including a main body 118A, and end members 118B and 118C. This enables incorporation and axial positioning of the taper roller bearings 142, 142 by step portions 118B1 and 118C1 of the end members 118B and 118C, respectively.

[0036]

Operation of the gear device 100 will next be discussed.

[0037]

Upon rotation of the input shaft 104 due to rotation of a motor shaft (not shown) of the motor M, the rotation undergoes a first-stage reduction via the pinion 104A and the gear 128, and is transmitted to the intermediate shaft 108. When the intermediate shaft 108 is rotated, the intermediate pinion 130 incorporated with the intermediate shaft 108 rotates, so that the transmitting external gear 110 meshing therewith rotates.

[0038]

Since the eccentric shaft driving gears 112 are in mesh concurrently with the transmitting external gear 110, the gears 112 rotate due to rotation of the transmitting external gear 110. As a result, the three eccentric shafts 114A to 114C rotate in phase; thus, the two internal teeth oscillating bodies 116A and 116B oscillatingly rotate around the external gear 118 in a state of maintaining their respective phases at 180 degrees. Since rotation of the internal teeth oscillating bodies 116A and 116B is restricted, a phase of the external gear 118 meshing with the internal teeth oscillating bodies 116A and 116B is shifted by the difference in the number of teeth through one rotation of oscillating rotation of the internal teeth oscillating bodies 116A and 116B. A rotation component equivalent to the phase difference causes rotation of the external gear 110, and output is delivered to outside. The eccentric shafts 114 are located circumferentially at equal intervals, and moreover, all the eccentric shafts 114 are driven, so that the internal gears 116A and 116B can be oscillated extremely smoothly.

[0039]

According to the gear device 100 in accordance with the embodiment of the present invention, the intermediate shaft 108 is located in parallel with the external gear (output shaft) 118 at a position more radially outward than the internal teeth oscillating bodies 116A and 116B. Furthermore, the rotation of the input shaft 104 is inputted to the oscillating bodies after having been received by the intermediate shaft 108. Therefore, the input shaft 104 can be located at a position removed radially outward, instead of on the axis L1 of the gear device 100 as with the prior art. As a result, the axial length of an entire device can be shortened.

... (Omitted) ...

[0045]

According to the discussed embodiments, the input shafts 104, 204 are located in parallel with respect to the axis L1 of the external gears (output shafts) 118, 218; however, the present invention is not limited in this manner. A structure may be adopted wherein the input shaft is located at a right angle with respect to the axis of the eccentric gears to add an orthogonal gear mechanism. In this instance, a driving device such as a motor which drives the gear device may be disposed radially to the gear device so that even less space can be occupied, particularly in the axial direction.

[0046]

[Advantage of the invention]

According to the present invention, an internal teeth oscillating inner gearing planetary gear device can be provided wherein installation space for piping, wiring, etc. can be easily secured in the central portion of the device according to a particular application and wherein further smoothness of power transmission can be achieved."

(2) Regarding Corrected Invention 1

In Corrected Invention 1, since an "oscillating gear" is not limited to an "internal teeth" oscillating gear, the oscillating gear includes an "external teeth" oscillating gear.

The "external teeth" oscillating gear includes a gear which uses an outside internal gear as an output gear (an output shaft is arranged outside and a fixed member is arranged inside; hereinafter referred to as "Type 1") and a gear which uses an outside internal gear as a fixed member (an output shaft is arranged inside and a fixed member is arranged outside; hereinafter referred to as "Type 2"). (Regarding the details of the "Type 1" and "Type 2", see a court decision of revocation of the trial decision dated on October 30, 2013 (2013 (Gyo-Ke) 10330, rendered on March 11, 2015) at the Intellectual Property High Court).

Since Corrected Invention 1 includes a limitation, "an output shaft which is supported rotatably by the casing inside the casing, and outputs rotation reduced in the oscillation type planetary gear device", it can be said that a casing is a fixed member. Corrected Invention 1 is recognized as including only the Type 2, not including the Type 1. (The demandee alleges in the written statement as of April 22, 2015, p. 8 l. 23-l. 27, that the Type 2 is included and the Type 1 is not included.)

Therefore, Corrected Invention 1 includes a type-2 external teeth oscillation type planetary gear device as well as an internal teeth oscillation type planetary gear device.

(3) Examination on Corrected Invention 1

We will examine whether Corrected Invention 1 including an external teeth oscillation type planetary gear device was made within the scope of matters described in the original specification of the original application, or whether Corrected Invention 1 does not introduce new technical matter in relation with the matters to be derived by integrating all descriptions in the original specification of the original application.

In order to determine that new matter is not introduced to Corrected Invention 1, in relation with the matters to be derived by integrating all descriptions in the original specification of the original application, Corrected Invention 1 must be equivalent to the matters described in the original specification of the original application, or the matters which are obvious from the description in the original specification of the original application.

A Whether the external teeth oscillation type planetary gear device is a matter described in the original specification of the original application, or not.

Each of Claims 1 to 7 of the scope of claims in the original specification of the original application is "The internal teeth oscillating inner gearing planetary gear device".

The Field of the invention in [0001] describes an "internal teeth oscillating inner gearing planetary gear device", and assumes an "internal teeth oscillation type".

The Conventional art in [0002]-[0011] describes an "internal teeth gearing planetary gear device".

Patent Document 1 (Japanese Patent No. 2607937) and Patent Document 2 (Japanese Unexamined Patent Application Publication No. 2000-65158) listed in [0012] as conventional arts describe an "internal teeth oscillating inner gearing planetary gear device".

The Problem to be solved by the invention in [0013] to [0015] is to "provide an internal teeth oscillating inner gearing planetary gear device wherein a space for locating piping, wiring, etc. in the central portion of a device can be easily secured, and wherein further smoothness of power transmission can be achieved", and assumes an "internal teeth oscillation type".

The Means for solving the problem in [0016] is to provide "an internal teeth oscillating inner gearing planetary gear device which has an external gear, and an internal gear having a slight difference in the number of teeth with the external gear, and eccentric shafts for oscillatingly rotating the internal gear, the internal gear is oscillatingly rotated around the external gear through eccentric bodies located on the eccentric shafts, wherein the gear device comprises a plurality of the eccentric shafts provided parallel to an axis of the external gear, eccentric shaft gears incorporated on each of the plurality of eccentric shafts, respectively, and a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion, and the gear device is configured such that rotation of the driving source-end pinion is transmitted concurrently to the plurality of eccentric shaft gears through the transmitting external gear", and the external gear and the internal gear oscillating around it are specified. The Means relates to an "internal teeth oscillating inner gearing planetary gear device".

The descriptions about the effects in [0017] to [0023] relate only to an "internal teeth oscillating inner gearing planetary gear device".

The Embodiments and effects of the invention in [0024] to [0040] specify two internal teeth oscillating bodies (internal gear) 116A, 116B, which are oscillatingly rotated by a plurality of eccentric shafts 114, therefore those relate only to an "internal teeth oscillating inner gearing planetary gear device".

The descriptions indicating the structure other than the embodiments in [0041] to [0045], which assume including internal teeth oscillating bodies, relate only to an "internal teeth oscillating inner gearing planetary gear device".

The Advantage of the invention in [0046] relates to an "internal teeth oscillating inner gearing planetary gear device".

FIGS. 1 to 3 relate to the embodiments of an "internal teeth oscillating inner gearing planetary gear device". FIGS. 4 to 7 relate to a conventional "internal teeth oscillating inner gearing planetary gear device".

In light of the above, the original specification of the original application includes no description about an external teeth oscillation type planetary gear device, and no description about a clue to a recognition that the "internal teeth oscillating inner

gearing planetary gear device" can be applied not only to an "internal teeth oscillation type planetary gear device" but also to an "external teeth oscillation type planetary gear device". Thus, it is natural to recognize that the original application focused only an "internal teeth oscillating inner gearing planetary gear device".

Therefore, the external oscillation type planetary gear device is not a matter described in the original specification of the original application.

B Whether the external teeth oscillation type planetary gear device is a matter obvious from the description in the original specification of the original application, or not.

The matter obvious from the description in the original specification of the original application is a matter which is recognized by a person skilled in the art who has found the description in the original specification of the original application as virtually being described there in light of the common general technical knowledge at the time of filing of the application. It is not enough that the matter is well-known arts or prior arts.

(A) Regarding the common general technical knowledge at the time of filing of the application, and well-known arts or prior arts

Regarding the device described in Evidence B No. 3, which has a hollow structure, no intermediate shaft is included, and an input gear 25b (corresponding to the "driving source-end pinion" of Corrected Invention 1), an intermediate gear 30 (corresponding to the "transmitting external gear" of Corrected Invention 1), and a transmitting gear 33 (corresponding to the "eccentric shaft gear" of Corrected Invention 1) do not mesh with each other on the same plane.

Regarding the device described in Evidence B No. 7, which has a hollow structure, no intermediate shaft is included, and one external gear 53 (corresponding to the "eccentric shaft gear" of Corrected Invention 1) is rotated by a first transmission member 52 (corresponding to the "driving source-end pinion" of Corrected Invention 1), while the other external gear 58 (corresponding to the "eccentric shaft gear" of Corrected Invention 1) is rotated by a cylindrical gear 55 (corresponding to the "transmitting external gear" of Corrected Invention 1). Thus, the above device does not have the configuration, "the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears".

The devices described in Evidences B No. 10 and No. 11 have a hollow

structure as well as the device described in Evidence B No. 3, but do not include an intermediate shaft.

The devices described in Evidence B no. 12 and No. 13 do not have the configuration, "the intermediate shaft is rotated to rotate the driving source-end pinion, the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears, and the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane". The above devices only have a hollow structure and an intermediate shaft.

Regarding the device described in Evidence A No. 1, which does not have a hollow structure and includes an intermediate shaft, a super gear 53 (corresponding to the "driving source-end pinion" of Corrected Invention 1), an input gear 11 (corresponding to the "transmitting external gear" of Corrected Invention 1), and a gear 12 (corresponding to the "eccentric shaft gear" of Corrected Invention 1) do not mesh with each other on the same plane.

Regarding the device described in Evidence A No. 5, which has a hollow structure but does not include an intermediate shaft, an input gear 52 (corresponding to the "driving source-end pinion" of Corrected Invention 1), a ring gear 48 (corresponding to the "transmitting external gear" of Corrected Invention 1), and a super gear 38 (corresponding to the "eccentric shaft gear" of Corrected Invention 1) do not mesh with each other on the same plane.

In light of the above, all of Evidence B No. 3, Evidence B No. 7, Evidences B No. 10 to No. 13, Evidence A No. 1, and Evidence A No. 5 only indicate that the configuration where a central portion is a hollow structure and rotation is driven by an intermediate shaft, in an oscillation type planetary gear device, is, to the extent above, a matter of common general technical knowledge at the time of filing of the application.

The above evidences only indicate that, in an oscillation type planetary gear device, the hollow structure, the technologies of driving source-end pinion, transmitting external gear, eccentric shaft gear, or intermediate shaft are well-known arts or prior arts.

(B) Whether it can be said that the matters are considered as virtually being described in the original specification of the original application, or not.

(B-1) In light of the fairness in treating applications under the first-to-file principle and

the magnitude of effects, "the new patent application shall be deemed to have been filed at the time of filing of the original" stipulated in Article 44(2) of the Patent Act, moderate judgment should not be made as to whether the matters are considered as virtually being described in the original specification of the original application.

The external teeth oscillation type planetary gear device should have a circular external shape for arranging teeth outside an oscillating body, and the oscillating body should mesh with teeth arranged inside a body casing. However, in the original specification of the original application, the external shape of the oscillating body is non-circular (see FIG. 2). In the case of providing an external teeth oscillation type in the original application, the oscillating body does not mesh with the teeth arranged inside the body casing 102. Thus, it should be considered that an external teeth oscillation type is not assumed.

In the original specification of the original application, the intermediate shaft 108, the input shaft 104, and the internal teeth oscillating bodies 116, 116B are located at positions radially close to each other and overlapping in a direction of the axis L1 (see FIGS. 1 to 3). In the case of an external teeth oscillation type, external teeth arranged on an oscillating body, the intermediate shaft 108, and the input shaft 104 may interfere with each other. Even though an appropriate function is required for preventing the interference, such function is not described in the original specification of the original application.

In fact, Evidence B No. 8 illustrates, as a type-2 external teeth oscillation type planetary gear device, "a schematic diagram which applies Corrected Invention 1 to an external teeth oscillation type planetary gear device" developed by the demandee. Therefore, it is not proper to deny that the type-2 external teeth oscillation type planetary gear device can be assumed.

However, the type-2 external teeth oscillation type planetary gear device can function as an external teeth oscillation type planetary gear device only when a proper effort (hereinafter referred to as "proper effort") is made on a main configuration of a power transmission system from an intermediate shaft to an eccentric shaft, as described in Evidence B No. 8, so that an internal shaft passes through an external teeth oscillating gear, so as to prevent interference between external teeth arranged in an oscillating body, an intermediate shaft, and an input shaft, to arrange a pinion (for rotating a gear of an intermediate shaft) rotating integrally with a motor shaft axially outside a fixed member (on the left side in Evidence B No. 8).

As such, in light of the common general technical knowledge at the time of filing of the original application, a type-2 external teeth oscillation type planetary gear

device cannot function without proper effort, it is too moderate to determine that a type-2 external teeth oscillation type planetary gear device is considered as virtually being described in the original specification of the original application. It should be said that the type-2 external teeth oscillation type planetary gear device can be implemented as expected only after an inner oscillation type inner gearing planetary gear device is completed, or after filing the application, by a proper effort is made with the extracted ideas.

Therefore, even if the hollow structure, the technologies of driving source-end pinion, transmitting external gear, eccentric shaft gear, or intermediate shaft were well-known arts or prior arts, in the oscillation type planetary gear device, it could not be said that a person skilled in the art who has found the description in the original specification of the original application recognized the type-2 external teeth oscillation type planetary gear device as virtually being described in the original specification of the original application in light of the common general technical knowledge at the time of filing of the application.

(B-2) In [0014] of the original specification of the original application, Patent Document 2 is shown as a prior art, and the paragraph describes the problem of prior art that in a device, which eccentric shafts located circumferentially at non-equal intervals (FIGS. 6 and 7 of the original specification of the original application, or FIGS. 1 and 3 of Patent Document 2 (see Japanese Unexamined Patent Application Publication No. 2000-65158: Evidence A No. 7)) are assumed for oscillating internal teeth oscillating bodies around an external gear, it is considered as being "difficult to smoothly oscillate the internal teeth oscillating bodies in a well-balanced manner around the external gear". In light of the description, "Since all the eccentric shafts can then be 'driven equally', internal teeth oscillating bodies can be oscillatingly driven smoothly in a well-balanced manner" ([0018]), the internal teeth oscillating bodies are smoothly oscillated around the external gear, and the problem described in the original specification of the original application, "to provide an internal teeth oscillating inner gearing planetary gear device wherein further smoothness of power transmission can be achieved" ([0015]), can be solved. In light of the problem to be solved by the invention, the configuration of including an external gear and an internal gear oscillating around it (implementing an "internal teeth oscillation type inner gearing planetary gear device"), which are specified in the means for solving the problem, is a configuration which relates to the principle of the invention described in the original specification of the original application, and essential.

It is impossible for an "oscillation type planetary gear device" which does not have the above essential configuration to solve the above problem, even by examining the original specification of the original application.

Therefore, it cannot be said that the "oscillation type planetary gear device" which does not have the above essential configuration, or an "external teeth oscillation type planetary gear device", is a matter recognized as virtually being described in the original specification of the original application.

(C) Therefore, it cannot be said that an external teeth oscillation type planetary gear device is a matter obvious from the description in the original specification of the original application.

C Summary

As described above, it cannot be said that Corrected Invention 1 including an external teeth oscillation type planetary gear device is, in a relation with the matters to be derived by integrating all descriptions of the original specification of the original application, not to introduce a new technical matter.

Therefore, Corrected Invention 1 including an external teeth oscillation type planetary gear device cannot be made within the scope of matters described in the original specification of the original application.

(4) The demandee's allegation

A The demandee submitted Evidence B No. 8 (see "a schematic diagram which applies Corrected Invention 1 to an external teeth oscillation type planetary gear device" shown at the lower right), and alleges, together with Evidences B No. 7, No. 10, No. 11, and No. 12, that a configuration of applying a power transmission system from the pinion on the driving source-end to an eccentric shaft to an external teeth oscillating gear is obvious from the description in the original specification of the original application and common general technical knowledge at the time of filing of the application. (see the written opinion as of August 21, 2015, p. 5 l. 31-l. 36)

The above allegation is examined below.

The external teeth oscillation type in Evidence B No. 8 is properly devised so as to prevent interference between external teeth arranged in an oscillating body, an intermediate shaft, and an input shaft (see "(3) B (B-1)").

The technologies disclosed in Evidences B No. 7, No. 10, No. 11, and No. 12 only indicate, as described in "(3) B (A)", that the configuration where a central portion is a hollow structure and rotation is driven by an intermediate shaft, in an oscillation type planetary gear device, was, to the extent above, a matter of common general technical knowledge at the time of filing of the application, and that the hollow structure, the technologies of driving source-end pinion, transmitting external gear, eccentric shaft gear, or intermediate shaft were well-known arts or prior arts, respectively.

Evidence A No. 6 (see FIGS. 5 and 6) describes internal teeth oscillating bodies 612A, 612B through which an input shaft 605 passes, but the device described in Evidence A No. 6, which includes no intermediate shaft and is not an external teeth oscillation type, does not indicate the proper effort of an external teeth oscillation type planetary gear device in Corrected Invention 1.

Thus, the above evidences indicate devices having no intermediate shaft or merely presence of the intermediate shaft, and do not indicate the proper effort. The configuration described in the evidences are different from Corrected Invention 1 in the main configuration of a power transmission system from an intermediate shaft to an eccentric shaft.

In addition, the configuration where an intermediate shaft passes through an external teeth oscillating gear, such as the external teeth oscillation type described in Evidence B No. 8, is not described in the original specification of the original application, and is not a matter obvious from the description in the original specification of the original application. The configuration is inconsistent with the description, "According to the gear device 100 in accordance with the embodiment of the present invention, the intermediate shaft 108 is located in parallel with the external gear (output shaft) 118 at a position more radially outward than the internal teeth oscillating bodies 116A and 116B." ([0039]), or the description of locating an intermediate shaft at a position more radially outward than an oscillating gear.

Furthermore, the configuration of arranging a pinion rotating integrally with a motor shaft axially outside a fixed member (on the left side in Evidence B No. 8), such as the external teeth oscillation type in Evidence B no. 8, is not clearly described in the original specification of the original application, and is not a matter obvious from the description in the original specification of the original application. The configuration is inconsistent with the description, "the input shaft 104 can be located at a position removed radially outward, instead of on the axis L1 of the gear device 100 as with the prior art. As a result, the axial length of an entire device can be shortened" ([0039]),

and with the description, "A structure may be adopted wherein the input shaft is located at a right angle with respect to the axis of the eccentric gears to add an orthogonal gear mechanism. In this instance, a driving device such as a motor which drives the gear device may be disposed radially to the gear device so that even less space can be occupied, particularly in the axial direction." ([0045]), or the description of shortening axial length.

Even if parts or partial configuration of an external teeth oscillation type planetary gear device were well-known arts or common general technical knowledge as prior arts, it cannot be said an external teeth oscillation type planetary gear device in Corrected Invention 1 with the proper effort on the main configuration of a power transmission system from an intermediate shaft to an eccentric shaft was also obvious from the description in the original specification of the original application and the common general technical knowledge at the time of filing of the application.

Therefore, the above demandee's allegation is groundless.

B The demandee alleges that a type-2 external teeth oscillation type planetary gear device is obvious from the description in the original specification of the original application, by means of the presence of technologies common to both a type-2 internal teeth oscillation type planetary gear device and a type-2 external teeth oscillation type planetary gear device.

The above allegation is examined below.

The problem to be solved by the invention described in the original specification of the original application (hereinafter referred to as "Original invention") is to "provide an internal teeth oscillating inner gearing planetary gear device wherein a space for locating piping, wiring, etc. in the central portion of a device can be easily secured according to a particular application, and wherein further smoothness of power transmission can be achieved" ([0015]). The Original invention employs, in order to solve the above problem, on the assumption of an internal teeth oscillation type inner gearing planetary gear device ([0001]), the following technology: "The present invention provides an internal teeth oscillating inner gearing planetary gear device which has an external gear and an internal gear having a slight difference in the number of teeth with the external gear, and eccentric shafts for oscillatingly rotating the internal gear. The internal gear is oscillatingly rotated around the external gear through eccentric bodies located on the eccentric shafts. The gear device comprises a plurality of the eccentric shafts provided parallel to an axis of the external gear,

eccentric shaft gears incorporated on each of the plurality of eccentric shafts, respectively, and a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion. The gear device is configured such that rotation of the driving source-end pinion is transmitted concurrently to the plurality of eccentric shaft gears through the transmitting external gear." ([0016]) Corrected Invention 1 to be implemented by further limiting the above technology is recognized as specifying the relation between a driving source-end pinion, a transmitting external gear, an eccentric shaft gear, and an intermediate shaft. In other words, Corrected Invention 1 is recognized as disclosing the following technology (hereinafter referred to as "the Technology") of a configuration of "comprising: a casing; eccentric shaft gears incorporated on each of a plurality of eccentric shafts; a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion; an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel in a position different from a rotating center axis of the transmitting external gear; and an output shaft which is supported rotatably by the casing inside the casing, and which outputs rotation reduced in the oscillation type planetary gear device, wherein the transmitting external gear is formed of a single gear, and supported by the output shaft via bearings, the intermediate shaft is rotated to rotate the driving source-end pinion, the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears, and the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane".

Regarding the Technology, as examined in "(3) B (B-1)", a type-2 external teeth oscillation type planetary gear device, which requires the proper effort on a main configuration of a power transmission system from an intermediate shaft to an eccentric shaft, is not a matter obvious from the description in the original specification of the original application and the common general technical knowledge at the time of filing of the application. Thus, it cannot be said that the Technology can be immediately applied to a type-2 external teeth oscillation type planetary gear device.

It cannot be said that a type-2 external teeth oscillation type planetary gear device is obvious from the description in the original specification of the original application, by means of the presence of technologies common to both a type-2 internal teeth oscillation type planetary gear device and a type-2 external teeth oscillation type planetary gear device.

Therefore, the above demandee's allegation is groundless.

C The demandee submitted Evidence B No. 8 and alleges that Corrected Invention 1 was restricted to a "type-2 external teeth oscillation type planetary gear device" having an output shaft arranged inside and a fixed member arranged outside, which was decided as "assumed" in the court decision. (Written statement as of April 22, 2015, p. 8 l. 23-l. 27)

In fact, the court decision said, "Examining whether the technology can be applied to the type-1 and type-2, ... on the assumption of the positional relation between a transmitting external gear and an output shaft, in the type-2 having an output member arranged inside, it is assumed that 'the transmitting external gear is formed of a single gear, and supported by the output shaft (output member) via bearings ...'" (see the court decision p. 28 l. 1-l. 11).

However, when Corrected Invention 1 is applied to a type-2 external teeth oscillation type, the above court decision only indicates "assumed" about the partial configuration of Corrected Invention 1, "the transmitting external gear is formed of a single gear, and supported by the output shaft (output member) via bearings", and does not indicate assuming the whole of a type-2 external teeth oscillation type planetary gear device to which Corrected Invention 1 has been applied.

The device described in Evidence B No. 8 is, as examined in "(3) B (B-1)", a device where a type-2 external teeth oscillation type planetary gear device can be "assumed" by adding the proper effort. It should be said that the probability of "assumed" is separated from whether new matter is not introduced, in relation with the matters to be derived by integrating all descriptions in the original specification of the original application.

Therefore, the above demandee's allegation is groundless.

D The demandee alleges that applying Corrected Invention 1 to a type-2 external teeth oscillation type planetary gear device is, in a relation with the matters to be derived by integrating all descriptions of the original specification of the original application, not to introduce a new technical matter. (Written statement as of December 18, 2015, p. 11 l. 28-p. 12 l. 13)

However, applying Corrected Invention 1 to a type-2 external teeth oscillation type planetary gear device which is an "external teeth oscillation type planetary gear device" is not an object of the invention in the original specification of the original application, and requires, as examined in "(3) B (B-1)", the proper effort. Thus, it should be said that the applying operation itself has new technical significance.

It cannot be said that even if Corrected Invention 1 can be applied to a type-2

external teeth oscillation type, a new technical matter is not introduced, in a relation with the matters to be derived by integrating all descriptions of the original specification of the original application.

Therefore, the above demandee's allegation is groundless.

E The demandee submitted Evidences B No. 4 to No. 7, and alleges that Corrected Invention 1 relates to a power transmission system common to both internal teeth oscillation type and external teeth oscillation type. (Written statement as of December 18, 2015, p. 17 l. 25-p. 18 l. 23)

In fact, the devices described in Evidences B No. 4 to No. 6 are considered to relate to a power transmission system common to both internal teeth oscillation type and external teeth oscillation type in terms of relating to a part of teeth which is a part of a gear device. The device described in Evidence B No. 7 is considered to relate to a power transmission system common to both internal teeth oscillation type and external teeth oscillation type in terms of which an internal shape of a pinion 21 (external teeth oscillating gear) is circular, and no configuration exists to hinder application to an internal teeth oscillation type.

However, Corrected Invention 1 includes the following main configuration of a power transmission system from an intermediate shaft to an eccentric shaft: "the intermediate shaft is rotated to rotate the driving source-end pinion, the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears, and the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane", while the devices described in Evidences B No. 4 to No. 7, which include no intermediate shaft and do not satisfy the above configuration, have different main configuration of a power transmission system from an intermediate shaft to an eccentric shaft of an oscillation type planetary gear device. Corrected Invention 1 includes not only the above configuration but also arrangement and configuration of other components, such as "the transmitting external gear is formed of a single gear" as a matter specifying the invention.

Thus, even though the simple configuration described in Evidences B No. 4 to No. 7 can be used in both internal teeth oscillation type and external teeth oscillation type, it cannot be said immediately that Corrected Invention 1 relates to a power transmission system common to both internal teeth oscillation type and external teeth oscillation type, by examining a main configuration of a power transmission system from an intermediate shaft to an eccentric shaft, and arrangement and configuration of

other components, such as "the transmitting external gear is formed of a single gear", as a whole.

Therefore, the above demandee's allegation is groundless.

(5) Summary

It cannot be said that Corrected Invention 1 was made within the scope of the matter described in the original specification of the original application. The Application does not satisfy the requirements of division without examining Corrected Invention 2, accordingly.

2 Regarding the reasons for invalidation (violation of Article 29(1)(iii) of the Patent Act) notified by the body

(1) Regarding the filing date of the Application

As described in "1", the Application does not satisfy the requirements of division. A retroactive filing date cannot be accepted. The submitting date of the Application, July 11, 2008, is recognized as a filing date of the Application.

(2) Cited document and matters described therein

The matters described in Japanese Unexamined Patent Application Publication No. 2004-293743 (hereinafter referred to as "Cited document"), which is a publication published on October 21, 2004 prior to the filing date of the Application (July 11, 2008), and which is a publication of the original application, are as described in "1 (1)".

(2-1) Regarding Cited Invention 1

According to the description of Cited Invention 1 in light of all the described matters of the Cited document and the contents described in FIGS. 1 to 7, the Cited document describes the following invention (hereinafter referred to as "Cited Invention 1") as an embodiment of an "internal teeth oscillation type inner gearing planetary gear device".

"An internal teeth oscillation type inner gearing planetary gear device

including an external gear 118 also functioning as a hollow-shaft type output shaft for easily securing installation space for piping, wiring, etc. in the central portion, and

configured to oscillatingly rotate internal teeth oscillating bodies (internal gears) 116A, 116B through eccentric bodies 140A, 140B arranged in each of three

eccentric shafts 114 (114A-114C),

comprising:

a main body casing 102;

eccentric shaft gears 112 incorporated on each of the three eccentric shafts 114 (114A-114C);

a ring-shaped transmitting external gear 110 meshing concurrently with the eccentric shaft gears 112 and a driving source-end pinion 130;

an intermediate shaft 108, on which the driving source-end pinion 130 is incorporated, provided in parallel in a position different from a rotating center axis of the ring-shaped transmitting external gear 110; and

an external gear 118 also functioning as an output shaft, which is supported rotatably by the main body casing 102 inside the main body casing 102, and outputs rotation reduced in the internal teeth oscillation type inner gearing planetary gear device,

wherein the ring-shaped transmitting external gear 110 is formed of a single gear, and supported by the external gear 118 also functioning as an output shaft via bearings 132,

the intermediate shaft 108 is rotated to rotate the driving source-end pinion 130, the rotation of the ring-shaped transmitting external gear 110 is transmitted concurrently, via the ring-shaped transmitting external gear 110, to the eccentric shaft gears 112 incorporated on each of the three eccentric shafts 114 (114A-114C), and

the driving source-end pinion 130, the ring-shaped transmitting external gear 110, and eccentric shaft gears 112 incorporated on each of the three eccentric shafts 114 (114A-114C) mesh with each other on the same plane."

(2-2) Regarding Cited Invention 2

Likewise, according to the description of Cited Invention 2 in light of all the described matters of the Cited document and the contents described in FIGS. 1 to 7, the Cited document describes the following invention (hereinafter referred to as "Cited Invention 2") as an embodiment of an "internal teeth oscillation type inner gearing planetary gear device".

"An internal teeth oscillation type inner gearing planetary gear device

including an external gear 118 also functioning as a hollow-shaft type output shaft for easily securing installation space for piping, wiring, etc. in the central portion, and

configured to oscillatingly rotate internal teeth oscillating bodies (internal

gears) 116A, 116B through eccentric bodies 140A, 140B arranged in each of three eccentric shafts 114 (114A-114C),

comprising:

eccentric shaft gears 112 incorporated on each of the three eccentric shafts 114 (114A-114C);

a ring-shaped transmitting external gear 110 meshing concurrently with the eccentric shaft gears 112 and a driving source-end pinion 130;

an intermediate shaft 108, on which the driving source-end pinion 130 is incorporated, provided in parallel in a position different from a rotating center axis of the ring-shaped transmitting external gear 110;

an external gear 118 also functioning as an output shaft which outputs rotation reduced in the internal teeth oscillation type inner gearing planetary gear device; and

the external gear 118 also functioning as an output shaft, which meshes with the internal teeth oscillating bodies (internal gears) 116A, 116B,

wherein the ring-shaped transmitting external gear 110 is formed of a single gear, and supported by the external gear 118 also functioning as an output shaft via bearings 132,

the intermediate shaft 108 is rotated to rotate the driving source-end pinion 130, the rotation of the ring-shaped transmitting external gear 110 is transmitted concurrently, via the ring-shaped transmitting external gear 110, to the eccentric shaft gears 112 incorporated on each of the three eccentric shafts 114 (114A-114C),

the driving source-end pinion 130, the ring-shaped transmitting external gear 110, and eccentric shaft gears 112 incorporated on each of the three eccentric shafts 114 (114A-114C) mesh with each other on the same plane, and

the intermediate shaft 108 includes a gear 128 meshing with a pinion 104A which is rotated integrally with a motor shaft of a motor M connected to the internal teeth oscillation type inner gearing planetary gear device."

(3) Comparison/Judgment

(3-1) Regarding Corrected Invention 1

Corrected Invention 1 and the Cited Invention 1 are compared below.

The "internal teeth oscillation type inner gearing planetary gear device" of Cited Invention 1 corresponds to the "oscillation type planetary gear device" of Corrected Invention 1.

Likewise, the "three eccentric shafts 114 (114A-114C)" correspond to the "eccentric shafts",

the "eccentric bodies 140A, 140B" correspond to the "eccentric bodies",

the "internal teeth oscillating bodies (internal gears) 116A, 116B" correspond to the "oscillating gear",

the "main body casing 102" corresponds to the "casing",

the "eccentric shaft gear 112" corresponds to the "eccentric shaft gear",

the "driving source-end pinion 130" corresponds to the "driving source-end pinion",

the "ring-shaped transmitting external gear 110" corresponds to the "transmitting external gear",

the "intermediate shaft 108" corresponds to the "intermediate shaft",

the "external gear 118 also functioning as an output shaft" corresponds to the "output shaft",

the "bearing 132" corresponds to the "bearing", and

the "eccentric shaft gears 112 incorporated on each of three eccentric shafts 114 (114A-114C)" correspond to the "eccentric shaft gears", respectively.

The configuration of Cited Invention 1, "including an external gear 118 also functioning as a hollow-shaft type output shaft for easily securing installation space for piping, wiring, etc. in the central portion", corresponds to the configuration of Corrected Invention 1, "hollow central portion".

In light of the above, Corrected Invention 1 coincides with Cited Invention 1 in the following points.

"An oscillation type planetary gear device having a hollow central portion, and configured to oscillatingly rotate an oscillating gear via eccentric bodies arranged in each of eccentric shafts, comprising:

a casing;

eccentric shaft gears incorporated on each of the plurality of eccentric shafts;

a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion;

an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel in a position different from a rotating center axis of the transmitting external gear; and

an output shaft which is supported rotatably by the casing inside the casing, and outputs rotation reduced in the oscillation type planetary gear device,

wherein the transmitting external gear is formed of a single gear, and

supported by the output shaft via bearings,

the intermediate shaft is rotated to rotate the driving source-end pinion, and the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears, and

the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane."

All of the constituent components of Corrected Invention 1 are included in Cited Invention 1.

Thus, Corrected Invention 1 is an invention described in the Cited document (Cited Invention 1).

(3-2) Regarding Corrected Invention 2

Corrected Invention 2 and the Cited Invention 2 are compared below.

The "internal teeth oscillation type inner gearing planetary gear device" of Cited Invention 2 corresponds to the "oscillation type planetary gear device" of Corrected Invention 2.

Likewise, the "three eccentric shafts 114 (114A-114C)" correspond to the "eccentric shafts",

the "eccentric bodies 140A, 140B" correspond to the "eccentric bodies",

the "internal teeth oscillating bodies (internal gears) 116A, 116B" correspond to the "internal teeth oscillating gear",

the "eccentric shaft gear 112" corresponds to the "eccentric shaft gear",

the "driving source-end pinion 130" corresponds to the "driving source-end pinion",

the "ring-shaped transmitting external gear 110" corresponds to the "transmitting external gear",

the "intermediate shaft 108" corresponds to the "intermediate shaft",

the "external gear 118 also functioning as an output shaft" corresponds to the "output shaft",

the "bearing 132" corresponds to the "bearing",

the "eccentric shaft gears 112 incorporated on each of three eccentric shafts 114 (114A-114C)" correspond to the "eccentric shaft gears",

the "motor M" corresponds to the "motor",

the "motor shaft" corresponds to the "motor shaft",

the "pinion 104A" corresponds to the "pinion", and

the "gear 128 meshing" corresponds to the "gear meshing", respectively.

The configuration of Cited Invention 2, "including an external gear 118 also functioning as a hollow-shaft type output shaft for easily securing installation space for piping, wiring, etc. in the central portion", corresponds to the configuration of Corrected Invention 2, "hollow central portion".

In light of the above, Corrected Invention 2 coincides with Cited Invention 2 in the following points.

"An oscillation type planetary gear device having a hollow central portion, and configured to oscillatingly rotate an inner teeth oscillating gear via eccentric bodies arranged in each of eccentric shafts, comprising:

eccentric shaft gears incorporated on each of the plurality of eccentric shafts;

a transmitting external gear meshing concurrently with the eccentric shaft gears and a driving source-end pinion;

an intermediate shaft, on which the driving source-end pinion is incorporated, provided in parallel in a position different from a rotating center axis of the transmitting external gear;

an output shaft which outputs rotation reduced in the oscillation type planetary gear device; and

an external gear meshing with the internal teeth oscillating gear and functioning also as the output shaft,

wherein the transmitting external gear is formed of a single gear, and supported by the output shaft via bearings,

the intermediate shaft is rotated to rotate the driving source-end pinion, and the rotation of the driving source-end pinion is transmitted concurrently, via the transmitting external gear, to the eccentric shaft gears,

the driving source-end pinion, the transmitting external gear, and the plurality of eccentric shaft gears mesh with each other on the same plane, and

the intermediate shaft includes a gear meshing with a pinion which is rotated integrally with a motor shaft of a motor connected to the oscillation type planetary gear device."

All of the constituent components of Corrected Invention 2 are included in Cited Invention 2.

Thus, Corrected Invention 2 is an invention described in the Cited document

(Cited Invention 2).

(4) Summary

As described above, Corrected Invention 1 and Corrected Invention 2 are inventions described in the Cited document, and fall under the invention of Article 29(1)(iii) of the Patent Act. Therefore, the demandee should not be granted a patent for the inventions.

No. 8 Closing

As described above, Corrected Invention 1 and Corrected Invention 2 fall under the provisions of Article 29(1)(iii) of the Patent Act. The patent relating to Corrected Invention 1 and Corrected Invention 2 falls under Article 123(1)(ii) of the Patent Act, and should be invalidated without examining the reasons for invalidation 1 to 3 alleged by the demandant and the reasons for invalidation in the notification of reasons for invalidation as of February 27, 2013 issued by the body.

The costs in connection with the trial shall be borne by the demandee under the provisions of Article 61 of the Code of Civil Procedure which is applied mutatis mutandis in the provisions of Article 169(2) of the Patent Act.

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

April 5, 2016

Chief administrative judge: KOYANAGI, Kengo
Administrative judge: OZEKI, Mineo
Administrative judge: NAKAGAWA, Ryuji