

Date	August 25, 2009	Court	Intellectual Property High Court, Fourth Division
Case number	2008 (Ne) 10068		A case in which the court ruled:

1. In comparison with the patented invention for which only a "semiconductor wafer" is stated in the scope of claims as the object to be cut, the cutting method in dispute for which a "semiconductor package" is designated as the object to be cut does not meet the fifth requirement for finding infringement under the doctrine of equivalents;

2. In order to argue against the defense raised under Article 104-3 of the Patent Act, the following requirements must be met: (i) the patentee has made a request for correction or request for trial for correction legally; (ii) the grounds for invalidation have been eliminated by the correction; and (iii) the method in dispute still falls within the corrected scope of claims.

References:

(Concerning 1) Article 70 and Article 101, item (v) of the Patent Act

(Concerning 2) Article 104-3 of the Patent Act

1. In this case, X, the appellant, alleges that the act of Y, the appellee, of manufacturing and selling the singulation apparatus (Y's product) constitutes indirect infringement (literal infringement and infringement under the doctrine of equivalents) of X's patent right granted for the invention entitled "cutting method," and based on this allegation, X seeks an injunction against manufacturing, sale, etc. of Y's product based on the patent right, and demands tort damages.

2. The judgment in first instance dismissed X's claims, holding that X's patent is recognized as the one that should be invalidated by a trial for patent invalidation and therefore X is not allowed to exercise the patent right pursuant to Article 104-3 of the Patent Act, without making a determination as to whether or not the patent right is being infringed.

3. In the present judgment, the court dismissed X's appeal, holding as follows.

(1) It is literally clear that the method used in Y's product (Y's method) does not fall within the technical scope of X's invention. In addition, in terms of appearance, X is unavoidably deemed to have intentionally limited the scope of objects to be cut to "semiconductor wafer" and excluded other objects. Y's method apparently fails to meet, among the requirements for finding infringement under the doctrine of equivalents, at least the fifth requirement of "there are no special circumstances such as where the subject matter in dispute was intentionally excluded from the scope of claims of the patented invention." From either viewpoint, Y's product does not fall within the

technical scope of X's invention.

(2) It should inevitably be said that a person ordinarily skilled in the art could have easily reached X's invention by referring to Cited Inventions 1 and 2 as well as well-known art. In this respect, X claims that the grounds for invalidation of the patent have been eliminated by the correction that it made. In order to argue against the defense raised under Article 104-3 of the Patent Act, the patentee must meet the following requirements: (i) the patentee has made a request for correction or request for trial for correction legally; (ii) the grounds for invalidation have been eliminated by the correction; and (iii) the method in dispute still falls within the corrected scope of the claims. In this case, however, requirements (ii) and (iii) are not met. Therefore, X is not allowed to exercise the patent right against Y pursuant to Article 104-3 of the Patent Act.

Judgment rendered on August 25, 2009; the original was received on the same day; court clerk
2008 (Ne) 10068 Appeal Case of Seeking an Injunction against Infringement of a Patent Right
Court of prior instance: Tokyo District Court, 2007 (Wa) 19159
Date of conclusion of oral argument: June 18, 2009

Judgment

Appellant: DISCO Corporation
Appellee: Honma Kogyo Kabushiki Kaisha

Main Text

This appeal shall be dismissed.

The appellant shall bear the court costs.

Facts and reasons

No. 1 Purpose of the appeal

1. The judgment in prior instance is revoked.
2. The appellee may not manufacture, sell or offer for sale the singulation system device named "MCS-8000."
3. The appellee pays to the appellant 34,000,000 yen and the amount accrued thereon that is calculated by the rate of 5% per annum for the period from August 7, 2007 (the day following the date of service of the complaint) to the date of completion of the payment.
4. The appellee bears the court costs for both the first and second instances.
5. Declaration of provisional execution regarding the third paragraph.

No. 2 Outline of the case

1. The appellant alleged that the appellee's act of manufacturing and selling the singulation system device named "MCS-8000" (hereinafter referred to as the "Appellee's Product") is deemed to constitute an infringement (Article 101, item (v) of the Patent Act) of the appellant's patent right (Patent No. 3887614; title of the invention: "cutting method"; hereinafter referred to as the "Patent Right"); the invention pertaining to Claim 3 in the scope of claims thereof is referred to as the "Invention"). Based on this allegation, the appellant seeks [i] an injunction against the manufacturing, sale, and otherwise handling of the Appellee's Product based on the Patent Right and [ii] payment of 34,000,000 yen as compensation for damages in tort with delay damages accrued thereon.
2. The court of prior instance held as follows without determining whether said appellee's act constitutes an infringement of the Patent Right: The patent in question (the "Patent") is for an invention which a person ordinarily skilled in the art could have easily made based on the inventions described in Cited Documents 1 and 2 below (hereinafter referred to as "Cited

Invention 1" and "Cited Invention 2," respectively), and it is recognized as one that should be invalidated by a trial for patent invalidation; therefore, the appellant is unable to exercise the Patent Right pursuant to Article 104-3 of the Patent Act. Based on this holding, the court dismissed the appellant's claims. Dissatisfied with this, the appellant filed this appeal against said dismissal.

Cited Document 1: Microfilm of Utility Model Application No. 1983-49304 (Publication of Unexamined Utility Model Application No. 1984-156753) (Exhibit Otsu No. 9)

Cited Document 2: Microfilm of Utility Model Application No. 1989-76555 (Publication of Unexamined Utility Model Application No. 1991-16343) (Exhibit Otsu No. 15-2)

3. The scope of claims pertaining to the Invention is shown in Scope of Claims List (1) attached to this judgment. In the trial for patent invalidation procedures, the appellant filed a request for correction (hereinafter referred to as the "First Correction") on October 17, 2008. The scope of claims pertaining to said correction is as described in Scope of Claims List (2) attached to this judgment (hereinafter referred to as the "First Corrected Invention").

Furthermore, the appellant filed a request for a trial for correction (hereinafter referred to as the "Second Correction") on April 15, 2009. The scope of claims pertaining to said correction is as described in Scope of Claims List (3) attached to this judgment (hereinafter referred to as the "Second Corrected Invention").

Then, in this instance, the appellant added the allegation that the Patent cannot be considered to be one that should be invalidated owing to the aforementioned corrections.

(omitted)

No. 4 Court decision

1. Regarding the statement of claim (whether the relevant act constitutes an indirect infringement)

The appellant alleges that the manufacturing and sale of the Appellee's Product constitutes an infringement of the Patent Right. Therefore, this point is first considered.

(1) Literal infringement

Originally, the appellant has not proven that the cutting method used in the Appellee's Product, that is, the appellee's method, is as shown in Appellee's Method List (1) attached to this judgment. However, looking at whether the relevant act constitutes a literal infringement, the appellant admits that the appellee's method is not a method for cutting a "semiconductor wafer," which is the object to be cut by the cutting method pertaining to the Invention, but instead is a method for cutting a "semiconductor package."

A "semiconductor wafer" is one wherein photo-etching, etc. is applied on a silicon wafer. On

the other hand, a "semiconductor package" is a circuit board which is formed by individually cutting a silicon wafer into chips, mounting those chips and installing wiring, and applying resin sealing or other mechanical processing thereto (Exhibits Otsu No. 4 and No. 5 and the entire import of argument).

Therefore, it is literally clear that the appellee's method does not fall within the technical scope of the Invention.

(2) Infringement under the doctrine of equivalents

A. The appellant alleges that the appellee's method falls within the technical scope of the Invention based on the doctrine of equivalents though it differs from the Invention in that its object to be cut is not a "semiconductor wafer" but a "semiconductor package."

Even if the structure described in the scope of claims pertaining to the Invention includes a part that differs from the part of the appellee's method, it is reasonable to understand that the appellee's method falls within the technical scope of the Invention as an equivalent of the structure described in the scope of claims if there are no special circumstances such as follows: [i] the aforementioned part is not the essential part of the Invention; [ii] even if the aforementioned part is replaced with the corresponding part of the appellee's method, the purpose of the Invention can be achieved and the same function and effect as the Invention are produced; [iii] a person ordinarily skilled in the art to which the Invention pertains (hereinafter referred to as a "person ordinarily skilled in the art") could have easily conceived of the replacement as mentioned above as of the time of using the appellee's method; [iv] the appellee's method is neither identical with publicly known art as of the filing of the patent application for the Invention nor is it one which a person ordinarily skilled in the art could have easily conceived of based on such art as of the aforementioned filing; and [v] the appellee's method falls under those that were intentionally excluded from the scope of claims in the patent application procedures for the Invention (see 1994 (O) No. 1083, judgment of the Third Petty Bench of the Supreme Court of February 24, 1998, Minshu Vol. 52, No. 1, at 113).

B. Regarding requirement for finding an infringement under the doctrine of equivalents [v]

(A) There are the following statements in the detailed explanation of the invention in the description in question (the "Description").

a. Regarding the art to which the invention pertains, there is the following statement: "The Invention relates to a precision cutting device that can precisely cut objects to be processed, such as a semiconductor wafer and ferrite, and a cutting method using the same" ([0001]).

b. Regarding the mode for working the invention, there are the following statements: "When cutting an object to be processed by using singulation device 10 ..., the object to be processed is placed on chuck table 11 and is held thereon by suction. For example, when singulating a semiconductor wafer ..." ([0012]) and "When cutting an object to be processed, for example,

semiconductor wafer 14 as shown in Figure 2, by using singulation device 10 ..." ([0024]).

c. Regarding Figure 2, there is the following statement in the brief explanation of the drawings: "A plan view of a semiconductor wafer, which is an example of objects to be processed that are subject to cutting."

Incidentally, in both Claims 1 and 2 of the Patent Right, the object to be cut is a "circular semiconductor wafer" (Exhibit Ko No. 2).

(B) The background to the filing of the patent application for the Invention is as follows.

a. The number of the claims of the Invention was originally four. The following invention was described in the original Claim 1 in the scope of claims: "A precision cutting device wherein a one screw that rotates by the drive of one motor and another screw that rotates by the drive of another motor are provided on the base in the y-axis direction, / the first spindle supporting member that moves in the y-axis direction by the rotation of said one screw engages with said one screw, and the second spindle supporting member that moves in the y-axis direction by the rotation of said another screw engages with said another screw, / the first spindle is provided in the lower part of said first spindle supporting member, and the second spindle is provided in the lower part of said second spindle supporting member, / the first blade is attached to the tip of said first spindle, and the second blade is attached to said second spindle, / and said first spindle and said second spindle are provided in approximate alignment in a manner that said first blade and said second blade face each other" (slashes in the text indicate line breaks in the original text; the same shall apply hereinafter). The aforementioned invention pertaining to the original Claim 1 is an invention for a device, and objects to be cut were not especially limited (Exhibit Otsu No. 8-3).

b. The Invention pertaining to Claim 3 was originally described in Claim 4 in the patent application. The object to be cut thereof was described as a "semiconductor wafer" from the beginning (Exhibit Otsu No. 8-3).

c. Regarding said patent application, a notice of reasons for refusal was given on the grounds that the relevant invention could have been easily made based on Cited Invention 1 (Exhibit Otsu No. 8-10). Incidentally, a method for "cutting a silicon wafer, piezoelectric substrate, etc." is disclosed in Cited Invention 1 (Exhibit Otsu No. 9).

The appellant made an amendment, including incorporation of the existence of a "chuck table that holds a semiconductor wafer by suction" in the constituent features as an essential feature (Exhibits Otsu No. 8-11 and No. 8-12). However, the appellant could not avoid the reasons for refusal even by this amendment. Therefore, the invention pertaining to the original Claim 1 was considered to be one which could have been easily made based on Cited Invention 1. Consequently, an examiner's decision of refusal was rendered for the patent application in question (Exhibit Otsu No. 8-13).

d. The appellant filed a request for a trial against an examiner's decision of refusal (Exhibit Otsu No. 8-14). In doing so, the appellant made an amendment to change the title of the invention to "cutting method," delete the original Claim 1, and make the original Claim 4 pertaining to the Invention be Claim 3 (Exhibit Otsu No. 8-15).

As a reason for filing the request for a trial against an examiner's decision of refusal, the appellant stated as follows: "... unique functions and effects are produced as a result of the interconnection of the fact that the object to be cut is a square or rectangular semiconductor wafer If the object to be cut is a work of an atypical form, ..." (Exhibit Otsu No. 8-17). After that, an examiner's decision to the effect that a patent is to be granted was rendered for the patent application pertaining to the Invention (Exhibit Otsu No. 8-19).

(C) It can be said that the appellant made a statement that limits objects to be processed to a "semiconductor wafer" in the scope of claims of the Invention despite the fact that the appellant could have easily conceived of the idea that ferrite, etc. exist as the objects to be processed, i.e. the objects to be cut, in addition to a semiconductor wafer in light of the statements in the Description as found in (A) above, and could have easily stated the scope of claims based on a generic concept that includes a wider range of objects to be cut, not limited to a semiconductor wafer.

Moreover, in light of the background to the filing of the patent application as found in (B) above, the appellant can be regarded as having emphasized, as a difference from Cited Invention 1 (Exhibit Otsu No. 9) wherein a method for cutting a piezoelectric substrate, etc. is disclosed, the point that the object to be cut by the Invention is a "square or rectangular semiconductor wafer," and as having intentionally limited the objects to be cut by the Invention to a "semiconductor wafer" by deleting the original Claim 1, which does not limit the objects to be cut to a semiconductor wafer.

In this manner, a person ordinarily skilled in the art could have easily stated the scope of claims based on a generic concept that includes a wider range of objects to be cut, not limited to a "semiconductor wafer" from the beginning. However, the appellant filed the patent application by limiting the objects to be cut to a "semiconductor wafer" and by covering only "semiconductor wafer," and also deleted the original Claim 1, which does not limit the objects to be cut to a semiconductor wafer. Therefore, it must be said that, in terms of appearance, the appellant is unavoidably considered to have intentionally excluded objects to be cut other than a "semiconductor wafer" from objects to be cut.

(D) In that case, it is clear that the appellee's method does not meet at least the aforementioned requirement [v] out of the requirements for finding an infringement under the doctrine of equivalents.

C. Regarding requirement for finding an infringement under the doctrine of equivalents [iv]

In addition, even if the appellee's method satisfies the constituent features of the Invention other than a "semiconductor wafer," it should also be considered to be one which a person ordinarily skilled in the art can easily conceive of based on Cited Invention 1 in the same manner as held in 2.(1) below. Therefore, this leads to a conclusion that the appellee's method also does not meet the aforementioned requirement [iv] out of the requirements for finding an infringement under the doctrine of equivalents.

(3) Brief summary

Therefore, the appellee's method does not fall within the technical scope of the Invention at any rate. Consequently, it does not constitute an indirect infringement under Article 101, item (v) of the Patent Act.

(omitted)

3. Conclusion

On these grounds, the judgment in prior instance is reasonable in its conclusion that there is no reason for the appellant's claims in this action, and this appeal shall be dismissed.

Intellectual Property High Court, Fourth Division

Presiding judge: TAKIZAWA Takaomi

Judge: TAKABE Makiko

Judge: MORISHITA Hiroki

(Attachment)

List of Items

1. Explanation of the drawings

Figure 1: A diagrammatic perspective view that roughly shows the entirety of the singulation system

Figure 2: A diagrammatic perspective view that shows the essential part of the singulation device in said system

Figure 3: An explanatory drawing that roughly shows the essential part of the first and second cutting means of said singulation device

2. Explanation of the signs

A: Singulation device

B: Inspection device

C: Alignment/packaging device

1: One motor

2: One screw

3: Another motor

4: Another screw

5: Base

6: First spindle supporting member

7: Second spindle supporting member

8: First spindle

9: Second spindle

10: First blade

11: Second blade

12: Chuck table

12a: Jig

12b: Groove

13: Semiconductor package

13a: Block part (part of the semiconductor package)

14: Imaging means

15: Alignment means

16: Flange

17: Blade cover

18: First cutting means

- 19: Flange
- 20: Blade cover
- 21: Second cutting means

3. Explanation of the structure

In Figure 1, the singulation system in question (the "Singulation System") consists of singulation device A for cutting a semiconductor package into individual chips, inspection device B for inspecting whether the cut chips are acceptable and sorting them out, and alignment/packaging device C for neatly aligning the sorted chips, measuring the prescribed amount of chips, and packaging them, all of which are provided on one side.

In the Singulation System, singulation device A is for cutting a semiconductor package into chips, and as shown in Figure 2, one screw 2 that rotates by one motor 1 and another screw 4 that rotates by another motor 3 are provided on base 5 in the y-axis direction in parallel with each other in such a manner that their tips overlap while keeping a prescribed vertical distance.

First spindle supporting member 6 which moves in the y-axis direction by the rotation of one screw 2 engages with said one screw 2, and second spindle supporting member 7 which moves in the y-axis direction by the rotation of another screw 4 engages with said another screw 4.

First spindle 8 is provided in the lower part of first spindle supporting member 6, and second spindle 9 is provided in the lower part of second spindle supporting member 7.

First blade 10 is attached to the tip of first spindle 8, and second blade 11 is attached to the end of second spindle 9.

First spindle 8 and second spindle 9 are provided in approximate alignment in the y-axis direction in such a manner that first blade 10 and second blade 11 face each other.

In addition, the Singulation System has imaging means 14 for taking an image of the surface of the semiconductor package and alignment means 15 for detecting streets to be cut which are formed on the surface of the semiconductor package.

Chuck table 12, on which jig 12a for holding semiconductor package 13 by suction is placed, cuts out square or rectangular block part 13a from semiconductor package 13 by using singulation device A that is provided in such a manner that it can move in the x-axis direction, and cuts it into chips. Incidentally, groove 12b is provided on jig 12a, and it corresponds to the cutting line (street) on block part 13a to be cut.

As shown in Figure 3, first blade 10 is fixed by flange 16 and is covered by blade cover 17, thereby constituting first cutting means 18. Second blade 11 is fixed by flange 19 and is covered by blade cover 20, thereby constituting second cutting means 21.

Figure 1

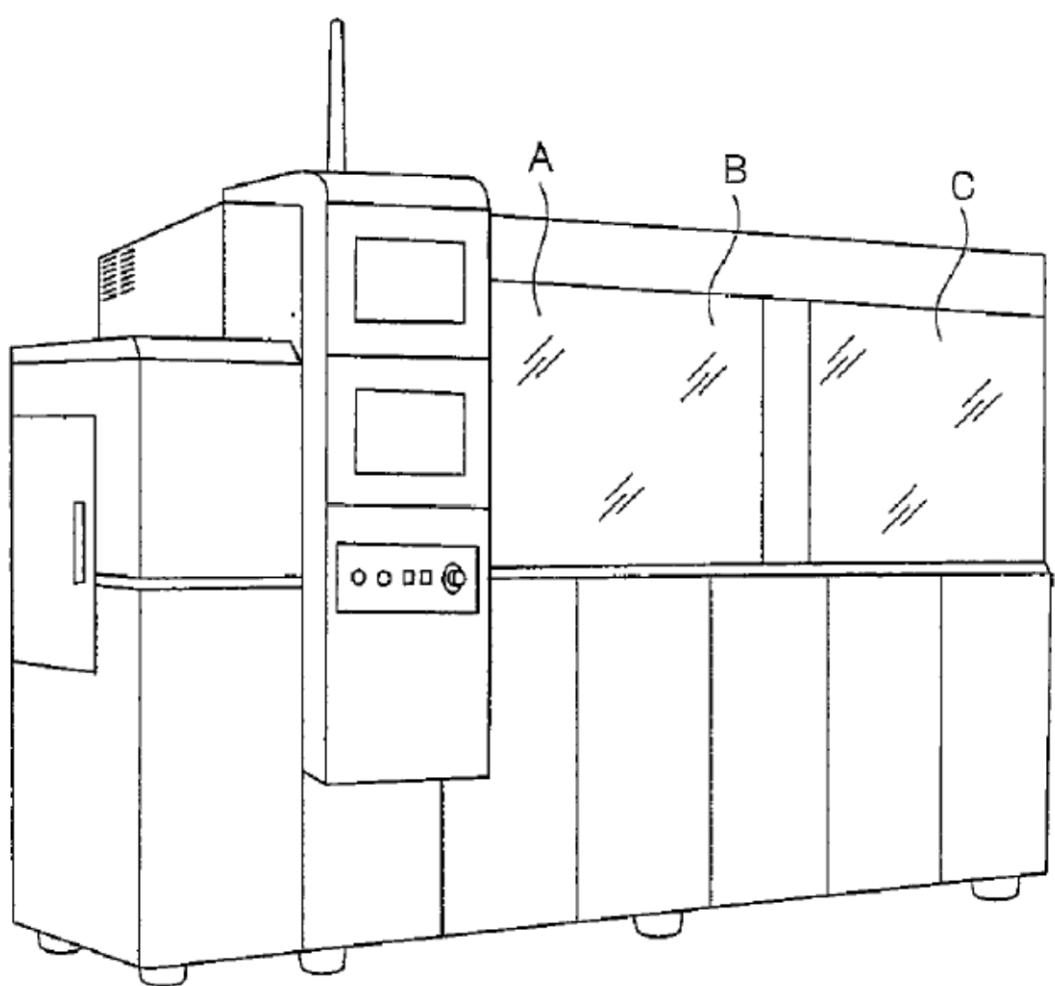


Figure 2

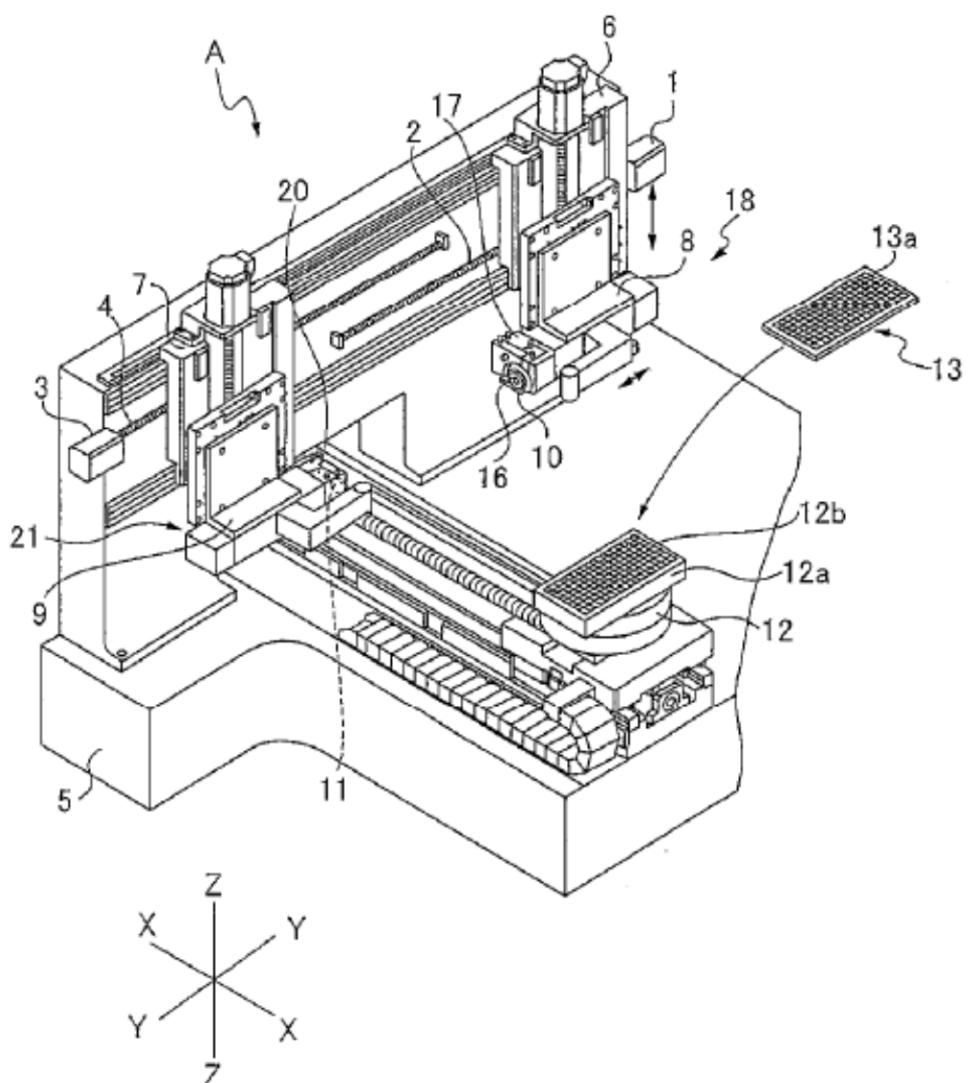
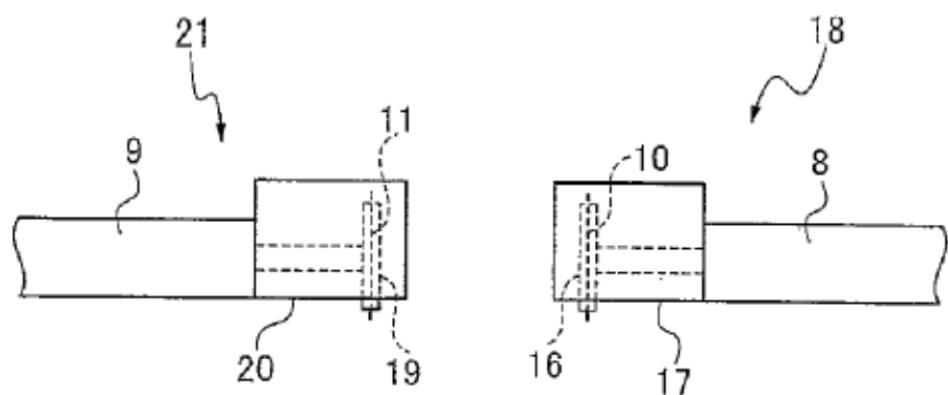


Figure 3



(Attachment)

Appellee's Method List (1)

A method for cutting one block-type semiconductor package by using the singulation system device manufactured and sold by the appellee (product name: "MCS-8000").

1. Explanation of the drawings

Figure 4: An explanatory drawing that shows the relationship between the distance between the two streets to be cut on the semiconductor package and the distance between the first and second blades

Figure 5: An explanatory drawing that roughly shows the cutting method at the essential part of the singulation device stated in the List of Items

2. Explanation of the signs

8: First spindle

9: Second spindle

10: First blade

11: Second blade

12: Chuck table

12a: Jig

12b: Groove

13: Semiconductor package

13a: Block part (part of the semiconductor package)

14: Imaging means

15: Alignment means

16: Flange

17: Blade cover

18: First cutting means

19: Flange

20: Blade cover

21: Second cutting means

3. Explanation of the cutting method

(1) Preprocessing step

Singulation device A that is incorporated in the singulation system cuts out square or rectangular block part 13a by cutting along the rim of block part 13a in semiconductor package

13, which is held by jig 12a that constitutes chuck table 12 in Figure 2, with first and second blades 10 and 11, and by removing the rim part.

Incidentally, if block part 13a is warped, multiple streets are cut as appropriate in order to alleviate the warp. In these cuttings, one street may be cut with one blade in some cases.

Before the cutting of streets in the preprocessing step, semiconductor package 13 is positioned immediately below alignment means 15, and an image of the surface of semiconductor package 13 is taken by imaging means 14. After that, streets to be cut in the preprocessing step are detected by alignment means 15.

(2) Main cutting step

Regarding semiconductor package 13 shown in Figure 4, for example, in the case of trying to cut streets S1 and S2 on block part 13a at the same time with first blade 10 and second blade 11, the distance between two streets to be cut (S1 and S2), i.e. D2, is shorter than the distance between first blade 10 and second blade 11, i.e. D1, even where first blade 10 and second blade 11 are made to be closest to each other, as shown in Figure 4, because flanges 16 and 19 are attached to the tips of first blade 10 and second blade 11 and first blade 10 and second blade 11 are covered by blade covers 17 and 20.

When cutting such streets on block part 13a of semiconductor package 13, as shown in (A), (B), and (C) in Figure 5, first blade 10 is positioned at the end of square or rectangular block part 13a which is held by jig 12a that constitutes chuck table 12, and second blade 11 is positioned at the center of block part 13a,

two streets that are formed at the end and center of block part 13a are cut at the same time in the x-axis direction by moving chuck table 12 in the x-axis direction while lowering first spindle 8 and second spindle 9, and

two streets are cut simultaneously by moving chuck table 12 in the x-axis direction by individually dividing and pushing out first spindle 8 and second spindle 9 in the direction of the other end while maintaining the distance between first spindle 8 and second spindle 9.

Before the cutting of streets in the main cutting step, the semiconductor package is positioned immediately below alignment means 15, and an image of the surface of the semiconductor package is taken by imaging means 14. After that, the streets to be cut in the main cutting step are detected by alignment means 15.

(3) Complementary step

In the aforementioned main cutting step, two streets are basically cut at the same time with first and second blades 10 and 11. However, where the number of streets to be cut is odd, the one remaining street is cut at the end with one of the blades to complement the main cutting step.

Before the cutting of a street in the complementary step, the semiconductor package is

positioned immediately below alignment means 15, and an image of the surface of the semiconductor package is taken by imaging means 14. After that, the street to be cut in the complementary step is detected by alignment means 15.

Figure 4

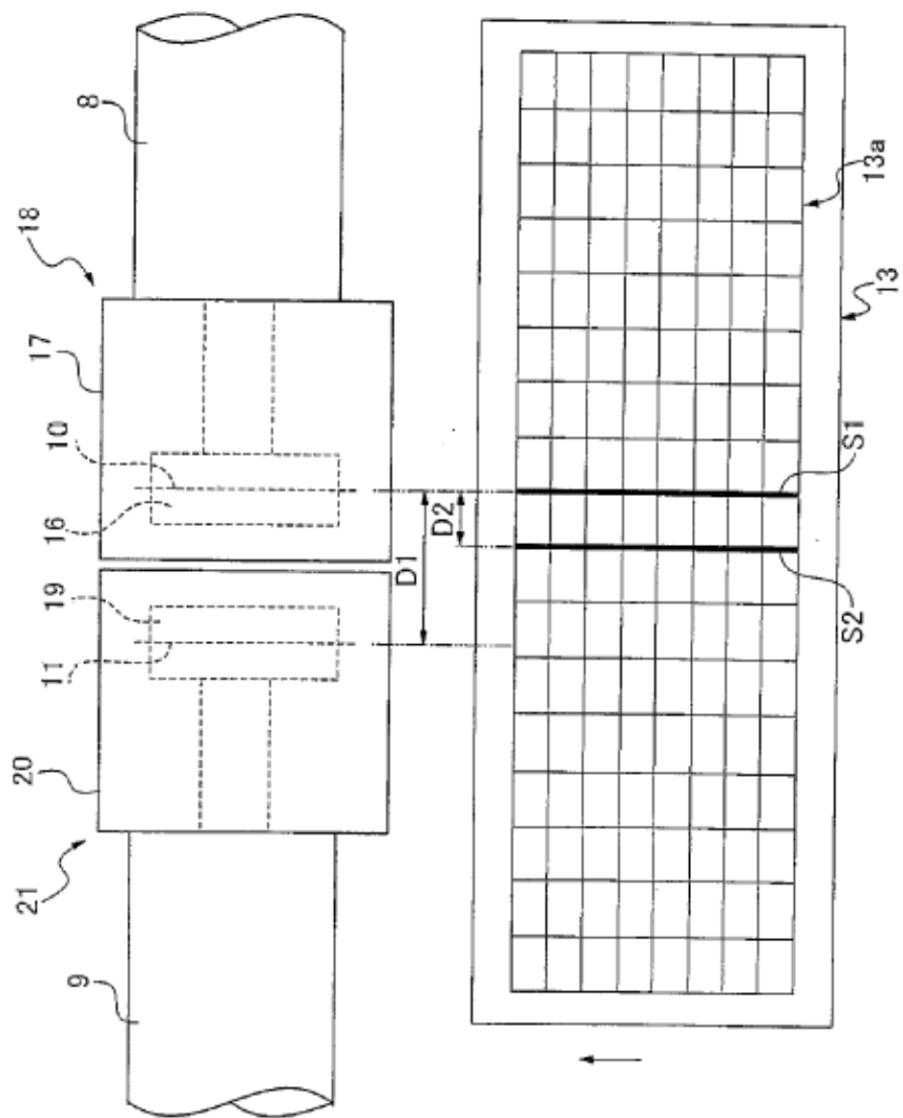
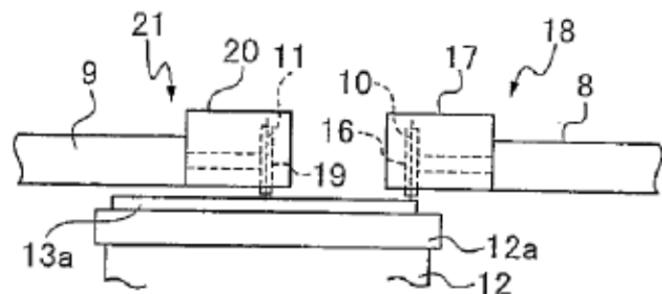
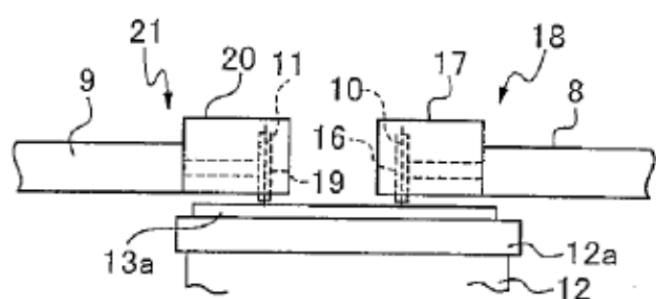


Figure 5

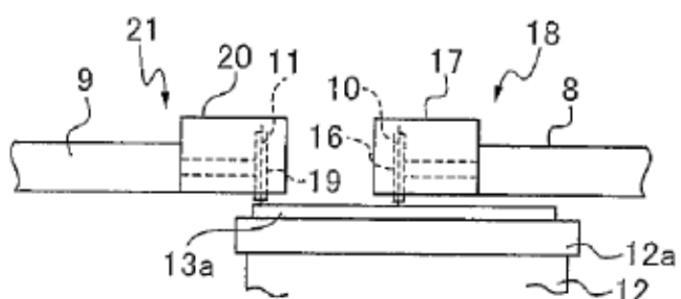
(A)



(B)



(C)



(Attachment)

Appellee's Method List (2)

The attachment to the judgment in prior instance, "Defendant's Method List (2)" is cited.

(Attachment)

Scope of Claims List (1)

"A method for cutting a square or rectangular semiconductor wafer by using a precision cutting device wherein one screw that rotates by the drive of one motor and another screw that rotates by the drive of another motor are provided on the base in the y-axis direction,
the first spindle supporting member that moves in the y-axis direction by the rotation of said one screw engages with said one screw, and the second spindle supporting member that moves in the y-axis direction by the rotation of said another screw engages with said another screw,
the first spindle is provided in the lower part of said first spindle supporting member, and the second spindle is provided in the lower part of said second spindle supporting member,
the first blade is attached to the tip of said first spindle, and the second blade is attached to said second spindle,
said first spindle and said second spindle are provided in approximate alignment in said y-axis direction in such a manner that said first blade and said second blade face each other, and
a chuck table that holds the semiconductor wafer by suction is provided in such a manner that it can move in the x-axis direction, and the method wherein
said first blade is positioned at the end of a square or rectangular object to be processed that is held on the chuck table and said second blade is positioned at the center of said object to be processed,
two streets, which are formed at the end and center of said object to be processed, are cut at the same time in the x-axis direction by moving said chuck table in the x-axis direction while lowering said first spindle and said second spindle, and
two streets are cut simultaneously time by moving said chuck table in the x-axis direction by individually dividing and pushing out said first spindle and said second spindle in the direction of the other end while maintaining the distance between said first spindle and said second spindle."

(Attachment)

Scope of Claims List (2)

"A method for cutting a square or rectangular semiconductor wafer by using a precision cutting device wherein one screw that rotates by the drive of one motor and another screw that rotates by the drive of another motor are provided on the base in the y-axis direction,
the first spindle supporting member that individually moves in the y-axis direction by the rotation of said one screw engages with said one screw, and the second spindle supporting member that individually moves in the y-axis direction by the rotation of said another screw engages with said another screw,
the first spindle is provided in the lower part of said first spindle supporting member, and the second spindle is provided in the lower part of said second spindle supporting member,
the first blade is attached to the tip of said first spindle, and the second blade is attached to said second spindle,
said first spindle and said second spindle are provided in approximate alignment in said y-axis direction in such a manner that said first blade and said second blade face each other, and
a chuck table that holds the semiconductor wafer by suction is provided in a manner such that it can move in the x-axis direction, and an imaging means for taking an image of the surface of the semiconductor wafer and an alignment means for detecting streets to be cut that are formed on the surface of said semiconductor wafer are provided, and the method wherein
the semiconductor wafer is positioned immediately below said alignment means, and streets to be cut that are formed on the surface of said semiconductor wafer are detected by said alignment means,
said first blade is positioned at the end of a square or rectangular object to be processed that is held on the chuck table, and said second blade is positioned at the center of said object to be processed,
two streets, which are formed at the end and center of said object to be processed and are detected by said alignment means, are cut at the same time in the x-axis direction by moving said chuck table in the x-axis direction while lowering said first spindle and said second spindle, and
the two streets that are detected by said alignment means are cut at the same time by moving said chuck table in the x-axis direction by individually dividing and pushing out said first spindle and said second spindle in the direction of the other end while maintaining the distance between said first spindle and said second spindle."

(Attachment)

Scope of Claims List (3)

"A method for cutting a square or rectangular semiconductor wafer by using a precision cutting device wherein one screw that rotates by the drive of one motor and another screw that rotates by the drive of another motor are provided on the base in the y-axis direction,
the first spindle supporting member that individually moves in the y-axis direction by the rotation of said one screw engages with said one screw, and the second spindle supporting member that individually moves in the y-axis direction by the rotation of said another screw engages with said another screw,
the first spindle is provided in the lower part of said first spindle supporting member, and the second spindle is provided in the lower part of said second spindle supporting member,
the first blade is attached to the tip of said first spindle and the first cutting means is constituted by fixing said first blade with a flange and covering it with a blade cover, and the second blade is attached to said second spindle and the second cutting means is constituted by fixing said second blade with a flange and covering it with a blade cover,
said first spindle and said second spindle are provided in approximate alignment in said y-axis direction in such a manner that said first blade and said second blade face each other, and
a chuck table that holds the semiconductor wafer by suction is provided in such a manner that it can move in the x-axis direction, and an imaging means for taking an image of the surface of the semiconductor wafer and an alignment means for detecting streets to be cut that are formed on the surface of said semiconductor wafer are provided, and the method wherein
a semiconductor wafer, for which the distance between two streets to be cut is shorter than the distance between said first blade and said second blade even where said first blade and said second blade are made to be closest to each other because flanges are attached to the tips of said first blade and said second blade and said first blade and said second blade are covered by blade covers, is positioned immediately below said alignment means, and streets to be cut that are formed on the surface of said semiconductor wafer are detected by said alignment means,
said first blade is positioned at the end of a square or rectangular object to be processed that is held on the chuck table, and said second blade is positioned at the center of said object to be processed,
two streets, which are formed at the end and center of said object to be processed and are detected by said alignment means, are cut at the same time in the x-axis direction by moving said chuck table in the x-axis direction while lowering said first spindle and said second spindle, and
the two streets that are detected by said alignment means are cut at the same time by moving

said chuck table in the x-axis direction by individually dividing and pushing out said first spindle and said second spindle in the direction of the other end while maintaining the distance between said first spindle and said second spindle."