**WHAT IS CLAIMED IS:**

1. A substrate holding device used in a substrate polishing apparatus that polishes a substrate using a polishing pad, the substrate holding device comprising:

a retainer ring configured to hold a peripheral edge of the substrate; and

a drive ring fixed to the retainer ring to rotate together with the retainer ring,

wherein a surface of the retainer ring at a polishing pad side has a convex portion at a position other than an innermost circumference following a shape of the drive ring.

2. A substrate holding device used in a substrate polishing apparatus that polishes a substrate using a polishing pad, the substrate holding device comprising:

a retainer ring including an inner retainer ring configured to hold a peripheral edge of the substrate and an outer retainer ring provided outside the inner retainer ring; and

a drive ring fixed to the retainer ring to rotate together with the retainer ring,

wherein a surface of the inner retainer ring and/or a surface of the outer retainer ring at a polishing pad side have a convex portion following a shape of the drive ring.

3. The substrate holding device of claim 1 or 2, wherein the drive ring is fixed to the retainer ring at a side opposite to the polishing pad, and

a surface of the drive ring at a retainer ring side has a convex portion at a position other than an innermost circumference thereof such that the surface of the retainer ring at the polishing pad side has a convex portion.

4. A substrate holding device used in a substrate polishing apparatus that polishes a substrate using a polishing pad, the substrate holding device comprising:

a retainer ring configured to hold a peripheral edge of the substrate;

a drive ring fixed to the retainer ring to rotate together with the retainer ring; and

a ring-type annular member configured, substantially over an entire circumference thereof, to be in contact with the drive ring at one portion thereof and to be in contact with the retainer ring at another portion thereof,

wherein a surface of the retainer ring at a polishing pad side has a convex portion following a shape of the annular member.

5. The substrate holding device of claim 4, wherein the retainer ring includes an inner retainer ring configured to hold the peripheral edge of the substrate and an outer retainer ring provided outside the inner retainer ring, and

a surface of the inner retainer ring and/or a surface of the outer retainer ring at the polishing pad side have a convex portion following the shape of the annular member.

6. The substrate holding device of claim 4 or 5, wherein the surface of the retainer ring at the polishing pad side has a convex portion due to a length of the annular member.

7. The substrate holding device of claim 6, wherein the drive ring is formed with a first inserted portion into which the annular member is inserted,

the retainer ring is formed with a second inserted portion into which the annular member is inserted, and

the surface of the retainer ring at the polishing pad side has a convex portion

because the annular member has a length that is longer than a sum of a length of the first inserted portion and a length of the second inserted portion.

8. The substrate holding device of any one of claims 1 to 7, further comprising:

a fixing member configured to fix the drive ring and the retainer ring substantially over an entire circumference thereof.

9. The substrate holding device of any one of claims 1 to 8, wherein the surface of the retainer ring at the polishing pad side has a convex portion only when the retainer ring is fixed to the drive ring.

10. The substrate holding device of claim 9, wherein, upon being fixed to the drive ring, the retainer ring is deformed such that the surface of the retainer ring at the polishing pad side has a convex portion.

11. The substrate holding device of any one of claims 1 to 10, wherein the drive ring is a non-consumable part and the retainer ring is a consumable part.

12. A substrate polishing apparatus comprising:

a substrate holding device of any one of claims 1 to 11; and

a polishing pad.

13. A method of manufacturing a substrate holding device used in a substrate polishing apparatus that polishes a substrate using a polishing pad, the method comprising:

providing a retainer ring, as a consumable part, to hold a peripheral edge of the substrate;

fixing a drive ring to the retainer ring to rotate together with the retainer ring; and

determining a shape of the drive ring according to a shape of a surface of a retainer ring at a polishing pad side.

14. The method of claim 13, wherein the shape of the drive ring is determined in such a manner in which a shape of a surface of the retainer ring at the polishing pad side becomes similar to the shape of the surface of the used retainer ring at the polishing pad side.

15. The method of claim 13, further comprising:

providing a plurality of drive rings that have been prepared beforehand and have different shapes; and

selecting one of the plurality of drive rings in such a manner in which a shape of a surface of the retainer ring at a polishing pad side becomes most similar to the shape of the surface of the used retainer ring at the polishing pad side.

16. A method of manufacturing a substrate holding device used in a substrate polishing apparatus that polishes a substrate using a polishing pad, the method comprising:

providing a retainer ring, as a consumable part, to hold a peripheral edge of the substrate;

fixing a drive ring to the retainer ring to rotate together with the retainer ring;

providing a ring-type annular member in such a manner in which, substantially over an entire circumference of the annular member, a portion is in contact with the drive ring, and another portion is in contact with the retainer ring; and

determining a shape of the annular member according to a shape of a surface of a used retainer ring at a polishing pad side.

17. The method of claim 16, wherein the shape of the annular member is determined in such a manner in which the shape of the surface of the retainer ring at the polishing pad side becomes similar to the shape of the surface of the used retainer ring at the polishing pad side.

18. The method of claim 17, further comprising:

providing a plurality of annular members that has been prepared beforehand and has different shapes; and

selecting one of the plurality of annular members in such a manner in which the shape of the surface of the retainer ring at the polishing pad side becomes most similar to the shape of the surface of the used retainer ring at the polishing pad side.