

What is claimed is:

1. A substrate transfer hand comprising:

a main hand body having a flat plate shape;

5 a plurality of receiving members provided on the main hand body and configured to hold an edge of a substrate; and

a gripping member movably provided with respect to the main hand body and configured to grip the edge of the substrate, the gripping member being moved by an actuator to sandwich the substrate between the receiving members and the gripping member and to fix the substrate;

10 wherein the plurality of receiving members each have a flat plate-shaped support portion mounted on the main hand body, a substrate outer periphery holding portion supported on the support portion and configured to hold an outer periphery of the substrate, and a substrate lower surface holding portion supported on the support portion and configured to hold a lower surface of the substrate;

15 the substrate outer periphery holding portion has a portion provided vertically from the support portion and configured to hold the substrate in contact with the outer periphery of the substrate;

the substrate lower surface holding portion has a portion inclined from an outer peripheral side toward an inner side of the substrate to be held; and

20 the substrate outer periphery holding portion and the substrate lower surface holding portion are completely spaced from each other by a gap to cause an upper surface of the flat plate-shaped support portion to be exposed between the substrate outer periphery holding portion and the substrate lower surface holding portion.

25 2. The substrate transfer hand according to claim 1, wherein the portion of the substrate outer periphery holding portion configured to hold the substrate in contact with the outer periphery of the substrate comprises an circular-arc surface along the outer periphery of the substrate.

3. The substrate transfer hand according to claim 1, wherein the portion of the substrate outer periphery holding portion configured to hold the substrate in contact with the outer periphery of the substrate comprises a polygonal prism having a top line which is brought into contact with the outer periphery of the substrate or a columnar body
5 having a curved surface.

4. The substrate transfer hand according to claim 1, wherein the substrate outer periphery holding portion comprises a plurality of substrate outer periphery holding portions disposed across the gap.
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5. The substrate transfer hand according to claim 1, wherein the inclined portion of the substrate lower surface holding portion comprises an inclined surface.

6. The substrate transfer hand according to claim 1, wherein the inclined portion
15 of the substrate lower surface holding portion comprises a polygonal prism having a top line which is brought into contact with the outer periphery of the substrate or a columnar body having a curved surface.

7. The substrate transfer hand according to claim 1, wherein the substrate outer
20 periphery holding portion has an upper portion which is cut off to provide a thin edge-like upper end.

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8. A substrate processing apparatus comprising:

a substrate transfer mechanism having a substrate transfer hand according to any one of claims 1 to 7; and

5 a processing unit configured to process a substrate transferred by the substrate transfer mechanism.