CLAIMS:

[Claim 1]

A substrate support mechanism, comprising:

a first support part that has a contact region capable of coming into contact with a peripheral edge of one surface of a substrate in a closed state;

a second support part that supports the other surface of the substrate; and

a first support part moving part that moves the first support part from an open state to the closed state,

wherein the one surface is the surface on one side of the center of the substrate in the thickness direction and the other surface is the surface on the other side of the center of the substrate in the thickness direction,

wherein the first support part comprises a first extending portion that extends along the in-plane direction of the substrate, and a second extending portion that extends from the first extending portion to one side,

the contact region is provided at a tip of the second extending portion,

the first extending portion is located on the other surface side of the substrate,

the first support part swings to be set to the closed state,

a first magnet is provided in the first extending portion,

a second magnet is provided between the substrate and the first extending portion at a position facing the first magnet, and

a swinging force is applied toward an inner side of a peripheral edge of the contact region by a repulsive force between the first magnet and the second magnet.

[Claim 2]

The substrate support mechanism according to claim 1, wherein the first support part

does not contact the other surface of the substrate.

[Claim 3]

The substrate support mechanism according to claim 1 or 2, wherein the second support part is provided on a straight line which connects the contact region and a center point of the substrate in an in-plane direction.

[Claim 4]

The substrate support mechanism according to any one of claims 1 to 3, wherein a tip portion of the first support part is continuously narrowed in width.

[Claim 5]

The substrate support mechanism according to any one of claims 1 to 4, wherein the tip portion of the first support part is inclined and protrudes toward inside of the peripheral edge.

[Claim 6]

The substrate support mechanism according to any one of claims 1 to 5, wherein an apex or a top surface of the tip portion of the first support part is located on one side of the substrate at a position of 0.5 mm or less from one surface of the substrate.

[Claim 7]

The substrate support mechanism according to any one of claims 1 to 6, wherein a plurality of sets of first magnets and second magnets that form pairs are provided, and

the first magnets and the second magnets rotate together with the substrate when the

substrate rotates.

[Claim 8]

The substrate support mechanism according to claim 7, comprising a plurality of arm parts provided on the other surface side of the substrate and extending toward outside of the peripheral edge in the in-plane direction, and

the second magnets are provided in the arm parts.

[Claim 9]

The substrate support mechanism according to claim 8, wherein the second support part is provided on the arm part.

[Claim 10]

The substrate support mechanism according to any one of claims 1 to 9, wherein the first support part moving part is located on the other side of the first extending portion, and moves the first extending portion to one side to move a tip portion of the second extending portion to an outer side of the peripheral edge.

[Claim 11]

The substrate support mechanism according to any one of claims 1 to 10, wherein a plurality of first support parts are provided, and

the first support parts are set to the open state randomly or in order when the substrate rotates.

[Claim 12]

The substrate support mechanism according to claim 11, wherein four or more first support parts are provided, and

at a certain time, three or more first support parts support the substrate, but the remaining first support part does not support the substrate.

[Claim 13]

A substrate cleaning device, comprising:

the substrate support mechanism according to any one of claims 1 to 12; and

a swing part for swinging a cleaning member for cleaning the substrate in a plane of the substrate,

wherein the cleaning member is moved to outside of the peripheral edge of the substrate.

[Claim 14]

A substrate processing method using the substrate support mechanism according to claim 11 or 12, comprising:

supporting the other surface of a substrate by the second support part;

supporting a peripheral edge of one surface of the substrate by moving the first support parts from an open state to a closed state;

rotating the substrate; and

supplying a cleaning liquid to the substrate.