What is claimed is:

1. A polishing apparatus comprising:

a polishing table configured to support a polishing pad having a polishing surface;

a rotatable head body having a pressing surface to press a substrate against the polishing surface;

a retainer ring surrounding the pressing surface and rotatable together with the head body, the retainer ring being arranged to press the polishing surface;

a rotary ring secured to the retainer ring and rotatable together with the retainer ring;

a stationary ring located on the rotary ring; and

a plurality of local-load exerting devices each configured to apply a local load to the stationary ring,

wherein the local-load exerting devices include:

a first pressing member and a second pressing member coupled to the stationary ring; and

a first actuator and a second actuator coupled to the first pressing member and the second pressing member, respectively,

the first pressing member is arranged at an upstream side of the retainer ring in a moving direction of the polishing surface,

the second pressing member is arranged at a downstream side of the retainer ring in the moving direction of the polishing surface,

the first pressing member is located at a position where the retainer ring is most separated away from the substrate, and

the second pressing member is located at a position where the retainer ring and the substrate are in contact.

2. The polishing apparatus according to claim 1, wherein the first pressing member and the second pressing member are located at both sides of a reference linear line passing through a center of the retainer ring and a center of the polishing table.

3. The polishing apparatus according to claim 2, wherein the first pressing member and the second pressing member are located on a linear line perpendicular to the reference linear line and passing through the center of the retainer ring.

4. The polishing apparatus according to claim 2, wherein the first pressing member is located within a range of 0° ± 90°, and the second pressing member is located within a range of 180° ± 90°, where one of two intersections of a linear line perpendicular to the reference linear line and passing through the center of the retainer ring and a peripheral edge of the retainer ring, located at an upstream side, is defined as an angle of 0 degrees, and the other intersection located at a downstream side is defined as an angle of 180 degrees, and one of two intersections of the reference linear line and the peripheral edge of the retainer ring , located at a center side of the polishing surface, is defined as an angle of 270 degrees, and the other intersection located at a peripheral side of the polishing surface is defined as an angle of 90 degrees.

5. The polishing apparatus according to claim 4, wherein the first pressing member is located within a range of 0° ± 60°, and the second pressing member is located within a range of 180° ± 60°.

6. The polishing apparatus according to claim 5, wherein the first pressing member is located within a range of 0° ± 30°, and the second pressing member is located within a range of 180° ± 30°.

7. The polishing apparatus according to claim 1, further comprising:

a controller configured to control an operation of the first actuator that regulates the local load applied from the first pressing member to the stationary ring and an operation of the second actuator that regulates the local load applied from the second pressing member to the stationary ring.

8. A method comprising:

rotating a polishing table supporting a polishing pad;

pressing a substrate against a polishing surface of the polishing pad with a pressing surface of a head body, while rotating the head body;

pressing a retainer ring against the polishing surface while rotating the retainer ring together with the head body and the substrate, the retainer ring surrounding the substrate; and

polishing the substrate while rotating a rotary ring together with the retainer ring and applying a local load to a stationary ring from a first pressing member or a second pressing member, the rotary ring being secured to the retainer ring, the stationary ring being located on the rotary ring,

wherein the first pressing member is arranged at an upstream side of the retainer ring in a moving direction of the polishing surface, and

the second pressing member is arranged at a downstream side of the retainer ring in the moving direction of the polishing surface,

the first pressing member is located at a position where the retainer ring is most separated away from the substrate, and

the second pressing member is located at a position where the retainer ring and the substrate are in contact.

9. The polishing apparatus according to claim 8, wherein the first pressing member and the second pressing member are located at both sides of a reference linear line passing through a center of the retainer ring and a center of the polishing table.

10. The polishing apparatus according to claim 9, wherein the first pressing member and the second pressing member are located on a linear line perpendicular to the reference linear line and passing through the center of the retainer ring.

11. The polishing apparatus according to claim 9, wherein the first pressing member is located within a range of 0° ± 90°, and the second pressing member is located within a range of 180° ± 90°, where one of two intersections of a linear line perpendicular to the reference linear line and passing through the center of the retainer ring and a peripheral edge of the retainer ring, located at an upstream side, is defined as an angle of 0 degrees, and the other intersection located at a downstream side is defined as an angle of 180 degrees, and one of two intersections of the reference linear line and the peripheral edge of the retainer ring , located at a center side of the polishing surface, is defined as an angle of 270 degrees, and the other intersection located at a peripheral side of the polishing surface is defined as an angle of 90 degrees.

12. The polishing apparatus according to claim 11, wherein the first pressing member is located within a range of 0° ± 60°, and the second pressing member is located within a range of 180° ± 60°.

13. The polishing apparatus according to claim 12, wherein the first pressing member is located within a range of 0° ± 30°, and the second pressing member is located within a range of 180° ± 30°.