CLAIMS

1. A grinding head, comprising:

a main body, wherein a first flexible membrane chamber (1) and a second flexible membrane chamber (4) are sequentially arranged in the main body along a direction of force application; and

a force application structure, at a junction of the first flexible membrane chamber (1) and the second flexible membrane chamber (4), and extending to be adjacent to an outer periphery of a working surface of the second flexible membrane chamber (4); the force application structure having: a first state, in which the force application structure exerts a force on the outer periphery of the working surface of the second flexible membrane chamber (4) under air pressure in the first flexible membrane chamber (1), so that it presses a periphery of a workpiece; and a second state, in which a gap is provided between the force application structure and the outer periphery of the working surface of the second flexible membrane chamber (4) where the first flexible membrane chamber (1) is not pressurized;

wherein the force application structure comprises a first support member (2) in the first flexible membrane chamber (1), a pressing member (5) in the second flexible membrane chamber (4), and a connection assembly for connecting the first support member (2) and the pressing member (5); wherein the pressing member (5) is movable in the second flexible membrane chamber (4) to press the outer periphery of the working surface of the second flexible membrane chamber (4);

wherein the connection assembly comprises a fastener (3) connected to both the first support member (2) and the pressing member (5), and a limiter (9) sleeved around the fastener (3); wherein the limiter (9) covers an outer peripheral wall of the first flexible membrane chamber (1), so as to restrict radial deformation of the first flexible membrane chamber (1) under air pressure.

2. The grinding head according to claim 1, wherein a second support member (6) is sleeved on an outer peripheral wall of the second flexible membrane chamber (4), so as to restrict radial deformation of the second flexible membrane chamber (4) under air pressure.

3. The grinding head according to claim 1 or 2, wherein an end of the pressing member (5) adjacent to the working surface of the second flexible membrane chamber (4) is formed into a flat surface.

4. The grinding head according to any one of claims 1 to 3, wherein a first elastic sealing member (12) is arranged between the first support member (2) and the connection assembly, and a second elastic sealing member (13) is arranged between the connection assembly and the pressing member (5).

5. The grinding head according to claim 4, wherein the first elastic sealing member (12) has an annular boss structure.

6. The grinding head according to any one of claims 1 to 5, wherein a difference in filled pressure between the first flexible membrane chamber (1) and the second flexible membrane chamber (4) is less than or equal to 2psi.

7. The grinding head according to claim 6, wherein the filled pressure in the first flexible membrane chamber (1) is 3.5-6.5 psi, and the filled pressure in the second flexible membrane chamber (4) is 1.5-4.5psi.

8. A wafer grinding apparatus, comprising a grinding head according to any one of claims 1 to 7.