WHAT IS CLAIMED IS:

1. A rotation driving mechanism of an air supply apparatus, comprising:

a fixed bracket;

a rotary bracket, wherein the rotary bracket is sleeved on the fixed bracket and is rotatable with respect to the fixed bracket; and

a driving member, wherein the driving member is provided on the fixed bracket, and the driving member drives the rotary bracket to rotate.

2. The rotation driving mechanism of an air supply apparatus according to claim 1, further comprising:

a first transmission member, the rotary bracket being provided with a second transmission member drivingly coordinating with the first transmission member, and the first transmission member being connected to a driving shaft of the driving member.

3. The rotation driving mechanism of an air supply apparatus according to claim 2, wherein

the fixed bracket comprises a body portion, the body portion defines a mounting groove, a side wall of the mounting groove has a first through hole, the first transmission member is located in the mounting groove, and the first transmission member drivingly coordinates with the second transmission member via the first through hole.

4. The rotation driving mechanism of an air supply apparatus according to claim 2, wherein

the second transmission member is provided on an inner wall surface of the rotary bracket opposite to the fixed bracket.

5. The rotation driving mechanism of an air supply apparatus according to claim 2, wherein

the first transmission member is a gear and the second transmission member is a rack.

6. The rotation driving mechanism of an air supply apparatus according to claim 3, further comprising:

a damper, wherein the side wall of the mounting groove has a second through hole, the damper is provided on the fixed bracket and is located in the mounting groove, and the damper drivingly coordinates with the second transmission member via the second through hole.

7. The rotation driving mechanism of an air supply apparatus according to claim 3, further comprising:

a support bearing, the support bearing being supported between the fixed bracket and the rotary bracket.

8. The rotation driving mechanism of an air supply apparatus according to claim 7, wherein

an outer wall surface of a bottom wall of the mounting groove is provided with a mounting post, an inner ring of the support bearing is sleeved on the mounting post, and an outer ring of the support bearing is connected to the rotary bracket.

9. The rotation driving mechanism of an air supply apparatus according to claim 8, further comprising:

a friction plate, wherein the rotary bracket defines a fitting groove, the bottom wall of the fitting groove is provided with a third through hole, and the friction plate is sleeved on the mounting post and abuts against an outer end of the third through hole.

10. The rotation driving mechanism of an air supply apparatus according to claim 9, further comprising:

a snap spring, wherein a circumferential wall surface of the mounting post is provided with a positioning groove, the snap spring is provided in the positioning groove, and the snap spring abuts an end surface of the friction plate away from the third through hole.

11. The rotation driving mechanism of an air supply apparatus according to claim 3, wherein

an edge of an open end of mounting groove is provided with a first mounting portion and the driving member is provided with a second mounting portion connected to the first mounting portion.

12. The rotation driving mechanism of an air supply apparatus according to claim 11, wherein

the first mounting portion is provided with a first positioning portion and the second mounting portion is provided with a second positioning portion connected to the first positioning portion.

13. The rotation driving mechanism of an air supply apparatus according to claim 1, further comprising:

a Hall assembly, wherein the Hall assembly comprises a hall plate and a magnet, and one of the hall plate and the magnet is provided on the fixed bracket, and the other is provided on the rotary bracket.

14. The rotation driving mechanism of an air supply apparatus according to claim 1, wherein

the fixed bracket is provided with a first limiting structure and the rotary bracket is provided with a second limiting structure coordinating with the first limiting structure in limiting.

15. The rotation driving mechanism of an air supply apparatus according to claim 1, wherein

a central axis of the driving member, a central axis of the fixed bracket, and a central axis of the rotary bracket coincide.

16. The rotation driving mechanism of an air supply apparatus according to claim 1, wherein

a central axis of the fixed bracket and a central axis of the rotary bracket coincide, and a central axis of the driving member and a central axis of the fixed bracket do not coincide.

17. The rotation driving mechanism of an air supply apparatus according to claim 6, wherein

the damper is multiple, the second through hole is multiple, and the multiple dampers correspond to the multiple second through holes in a one-to-one correspondence.

18. The rotation driving mechanism of an air supply apparatus according to claim 1, wherein

the driving member is a driving motor.

19. An air supply apparatus, comprising:

the rotation driving mechanism of an air supply apparatus of any one of claims 1 to 18.

20. An air supply apparatus, comprising:

a first fixed seat;

a second fixed seat, the second fixed seat being connected to a head of the air supply apparatus; and

a rotation driving mechanism, the rotation driving mechanism having a fixed bracket and a rotary bracket, the fixed bracket being fixedly connected to the first fixed seat, and the rotary bracket being fixedly connected to the second fixed seat,

wherein the rotary bracket is sleeved on the fixed bracket, and the rotation driving mechanism further has a driving assembly, and the driving assembly drives the rotary bracket to rotate around the pitch axis.

~~21. The air supply apparatus according to claim 20, wherein~~

~~the pitch axis is parallel to a horizontal plane.~~

~~22. The air supply apparatus according to claim 20, wherein the driving assembly comprises:~~

~~a driving member and a first transmission member, wherein the first transmission member is connected to the driving member, and the rotary bracket is provided with a second transmission member drivingly engaging with the first transmission member.~~

~~23. The air supply apparatus according to claim 22, wherein~~

~~the rotation driving mechanism further comprises:~~

~~a support bearing, wherein the fixed bracket comprises a body portion, the body portion defines a mounting groove, an outer wall surface of a bottom wall of the mounting groove is provided with a mounting post, an inner ring of the support bearing is sleeved on the mounting post, and an outer ring of the support bearing is connected to the rotary bracket.~~

~~24. The air supply apparatus according to claim 23, wherein~~

~~the rotary bracket defines a through-hole, the through-hole passing through the rotary bracket in a thickness direction of the rotary bracket, and the through-hole being sleeved on an outer side of the fixed bracket and the support bearing.~~

~~25. The air supply apparatus according to claim 24, wherein~~

~~the inner wall surface of the through-hole is provided with an annular boss and the inner wall surface of the annular boss is provided with the second transmission member.~~

~~26. The air supply apparatus according to claim 25, wherein~~

~~the inner wall surface of the through-hole is provided with a stopper boss, the stopper boss being located between the annular boss and the support bearing, and the stopper boss abutting the support bearing.~~

~~27. The air supply apparatus according to claim 23, wherein the rotation driving mechanism further comprises:~~

~~a snap spring, wherein the snap spring is sleeved on the mounting post and located at one end of the support bearing away from the fixed bracket.~~

~~28. The air supply apparatus according to claim 23, wherein the rotation driving mechanism further comprises:~~

~~a bearing inner ring stop, wherein the bearing inner ring stop is provided on the fixed bracket and is located at one end of the support bearing away from the fixed bracket.~~

~~29. The air supply apparatus according to claim 23 or 28, wherein the rotation driving mechanism further comprises:~~

~~a bearing outer ring stop, the bearing outer ring stop being provided on the rotary bracket and located at one end of the support bearing away from the fixed bracket.~~

30. The air supply apparatus according to claim 23, wherein the rotation driving mechanism further comprises:

an annular friction plate, the body portion being sleeved on the outer side of the friction plate, and the friction plate being sleeved on the outer side of the rotary bracket.

31. The air supply apparatus according to claim 23, wherein

the side wall of the mounting groove has a first through hole, the first transmission member being located in the mounting groove, and the first transmission member drivingly coordinating with the second transmission member through the first through hole.

32. The air supply apparatus according to claim 22, wherein

the first transmission member is a gear and the second transmission member is a rack.

33. The air supply apparatus according to claim 23, wherein the rotation driving mechanism further comprises:

a damper, the side wall of the mounting groove having a second through hole, the damper being provided in the mounting groove, and the damper drivingly coordinating with the second transmission member by passing through the second through hole.

34. The air supply apparatus according to claim 20, wherein the rotation driving mechanism further comprises:

a Hall assembly, wherein the Hall assembly comprises a hall plate and a magnet, and one of the hall plate and the magnet is provided on the fixed bracket, and the other is provided on the rotary bracket.

35. The air supply apparatus according to claim 20, wherein

a depression angle of the rotary bracket is A, meeting a relational expression: $-10°\leq A\leq 0°$;

an elevation angle of the rotary bracket is B, meeting a relational expression: $0°\leq B\leq 90°$.

36. The air supply apparatus according to claim 20, further comprising:

a damping mechanism, the damping mechanism being provided on the fixed bracket and being pivotably connected to the rotary bracket.

~~37. The air supply apparatus according to claim 36, wherein~~

~~the rotary bracket has a damping mechanism connection structure, the damping mechanism connection structure being sleeved on the damping mechanism.~~

~~38. The air supply apparatus according to claim 37, wherein~~

~~the damping mechanism connection structure has a first routing channel and the damping mechanism has a second routing channel communicating with the first routing channel.~~

~~39~~21. A household appliance, comprising:

a first fixed seat;

a second fixed seat; and

a rotation driving mechanism, comprising a fixed bracket and a rotary bracket, the fixed bracket being connected to the second fixed seat, and the rotary bracket being connected to the first fixed seat,

wherein the rotary bracket rotates about the fixed bracket to link the first fixed seat to rotate about the second fixed seat.

~~40. The household appliance according to claim 39, further comprising:~~

~~a first damping frame connected to the first fixed seat; and~~

~~a second damping frame connected to the fixed bracket, the second damping frame being sleeved on the first damping frame, and the first damping frame being adapted to rotate around the second damping frame.~~

~~41. The household appliance according to claim 40, wherein~~

~~a damping fluid is provided between the first damping frame and the second damping frame.~~

~~42. The household appliance according to any one of claims 39 to 41, wherein~~

~~an angle that the first fixed seat rotates is greater than 0° and less than or equal to 200°.~~

~~43. The household appliance according to claim 42, further comprising:~~

~~a hall plate provided on the second fixed seat, wherein the first fixed seat is further provided with a magnetic member, and the hall plate is connected to the magnetic member.~~

~~44. The household appliance according to claim 40 or 41, wherein~~

~~a hollow portion is provided on the second fixed seat, the hollow portion is provided corresponding to the first damping frame, the household appliance further comprises a connecting wire, and the connecting wire is connected to the second fixed seat from the first fixed seat through the hollow portion.~~

~~45. The household appliance according to any one of claims 39 to 41, wherein the rotation driving mechanism further comprises:~~

~~a driving member, the driving member being connected to the fixed bracket; and~~

~~a first transmission member, the first transmission member being respectively connected to the driving member and the rotary bracket, and the driving member being adapted to drive the first transmission member to rotate so as to link the rotary bracket to rotate.~~

~~46. The household appliance according to claim 45, wherein the fixed bracket comprises:~~

~~a body portion, the body portion being connected to the driving member and the second fixed seat; and~~

~~a mounting post connected to the body portion, the rotary bracket being sleeved on the mounting post, and the rotary bracket being adapted to rotate around the mounting post.~~

~~47. The household appliance according to claim 46, wherein~~

~~the body portion has a mounting groove, and the first transmission member is provided on the mounting groove;~~

~~a first through hole is provided on a wall surface of the mounting groove, the first through hole penetrates through the wall surface of the mounting groove, and the first transmission member is connected to the rotary bracket via the first through hole.~~

~~48. The household appliance according to claim 47, wherein the rotary bracket comprises:~~

~~a connection portion, wherein the connection portion is sleeved on the mounting post, and one end of the connection portion away from the driving member is connected to the first fixed seat; and~~

~~a second transmission member connected to the connection portion, wherein the first transmission member is connected to the second transmission member, and the first transmission member drives the second transmission member to rotate to link the connection portion to rotate.~~

~~49. The household appliance according to claim 48, further comprising:~~

~~a damper connected to the body portion and provided on the mounting groove, wherein the damper comprises a third rotational member,~~

~~wherein a second through hole is provided on the wall surface of the mounting groove, the second through hole penetrates through the wall surface of the mounting groove, and the third rotational member is connected to the second transmission member via the second through hole.~~

~~50. The household appliance according to claim 49, wherein~~

~~the first transmission member, the second transmission member, and the third rotational member each comprises a gear structure, and the first transmission member and the second transmission member drivingly engage via the gear structure, and the second transmission member and the third rotational member drivingly engage via the gear structure.~~

~~51. The household appliance according to claim 46, wherein~~

~~the driving member comprises a rotor and an output shaft connected to the rotor, and the output shaft is connected to the first transmission member,~~

~~wherein a rotation axis of the rotor, an axis of the mounting post, and the axis around which the rotary bracket rotates are arranged coaxially, or the rotation axis of the rotor and the axis of the mounting post do not coincide.~~

~~52. The household appliance according to claim 46, further comprising:~~

~~a support bearing provided between the rotary bracket and the mounting post;~~

~~a limiting member along a direction of an axis about which the rotary bracket rotates, the limiting member being located at one end of the rotary bracket away from the driving member;~~

~~a friction plate along a direction of an axis about which the rotary bracket rotates, the friction plate being provided between the rotary bracket and the limiting member; and~~

~~a limiting structure connected to the fixed bracket, the limiting structure being adapted to limit a rotation angle of the rotary bracket.~~

~~53. The household appliance according to any one of claims 39 to 41, wherein~~

~~the household appliance comprises any one of a fan, an air conditioner, and a heater.~~