CLAIMS

1. A ball screw, comprising:

a screw including at least two track grooves;

a nut slidingly disposed on the screw and including:

a nut body having two assembly openings, in which

the inside of the nut body includes at least two inner ball grooves corresponding to the track grooves, respectively, the inner ball grooves and the track grooves constituting two inner ball channels, the nut body including two reflowing channels corresponding to the inner ball channels, and the reflowing channels and the inner ball channels constituting a part of two ball circulation channels of the ball screw;

in which one end of the nut body includes a first annular containing recess and a second annular containing recess, the inner diameter of the second annular containing recess being greater than that of the first annular containing recess; and

at least one end assembly, including:

an end circulation member disposed in the first annular containing recess of the nut body and including at least two circulation portions which are disposed in the assembly openings, respectively;

a dust-proof member made of a flexible material and disposed on the side of the end circulation member away from the nut body and contained by the second annular containing recess; and

a fastening member made of a rigid material and disposed on the side of the dust-proof member away from the end circulation member and contained by the second annular containing recess, in which one side of the fastening member includes a plurality of projections and the other side of the fastening member includes a plurality of indentations corresponding to the projections,

the projections and the indentations being projected and concaved along the lengthwise direction of the nut body, respectively;

in which the axial thicknesses of the dust-proof member and the fastening member are greater than the axial thickness of the second annular containing recess; and

a plurality of balls disposed within the ball circulation channels.

2. A ball screw according to Claim 1, in which the projections and the indentations are projected and concaved along the lengthwise direction of the nut body, respectively.

3. A ball screw according to Claim 1, in which the fastening member is compressible or deformable along the lengthwise direction of the nut body.

4. A ball screw according to Claim 1, in which the projections are connected continuously.

5. A ball screw according to Claim 1, in which a plurality of the intervals exist among the projections, and the projections are not continuous.

6. A ball screw according to Claim 4, in which the projections are arched, convex or taper.

7. A ball screw according to Claim 5, in which the projections are arched, convex or taper.

8. A ball screw according to Claim 1, in which the dust-proof member is composed of a plurality of dust-proof units.

9. A ball screw according to Claim 1, in which a strengthening member is disposed in each of the circulation portion.

CLAIMS

1. A ball screw, comprising:

a screw including at least two track grooves;

a nut slidingly disposed on the screw and including:

a nut body having

two assembly openings, each acting as an open-type breach, in which the open-type breach is disposed on one end of the nut body and communicates with an outer surface and an inner surface of the nut body,

at least one end assembly, the end assembly including:

an end circulation member including at least two circulation portions each disposed in a respective assembly opening;

a dust-proof member made of a flexible material and disposed on the side of the end circulation member away from the nut body; and

a C-shaped fastening member made of a rigid material and disposed on the side of the dust-proof member away from the end circulation member, in which one side of the C-shaped fastening member includes a plurality of projections and the other side of the C-shaped fastening member includes a plurality of indentations corresponding to the projections, the projections and the indentations being projected and concaved along the lengthwise direction of the nut body respectively;

in which the inside of the nut body includes at least two inner ball grooves corresponding to the track grooves, respectively, the inner ball grooves and the track grooves constituting two inner ball channels, the nut body including two reflowing channels corresponding to the inner ball channels, and the reflowing channels and the inner ball channels constituting a part of two ball circulation channels of the ball screw;

in which the end of the nut body includes a first annular containing recess and a second annular containing recess, the inner diameter of the second annular containing recess being greater than that of the first annular containing recess, such that the inside of the nut body near the end forms a ladder-like structure; and

in which

the end circulation member is disposed in the first annular containing recess of the nut body;

the dust-proof member and the C-shaped fastening member are contained by the second annular containing recess;

the axial thicknesses of the dust-proof member and the C-shaped fastening member are greater than the axial thickness of the second annular containing recess; and

a plurality of balls disposed within the ball circulation channels.

2. A ball screw according to Claim 1, in which the projections and the indentations are projected and concaved along the lengthwise direction of the nut body, respectively.

3. A ball screw according to Claim 1, in which the fastening member is compressible or deformable along the lengthwise direction of the nut body.

4. A ball screw according to Claim 1, in which the projections are connected continuously.

5. A ball screw according to Claim 1, in which a plurality of the intervals exist among the projections, and the projections are not continuous.

6. A ball screw according to Claim 4, in which the projections are arched, convex or taper.

7. A ball screw according to Claim 5, in which the projections are arched, convex or taper.

8. A ball screw according to Claim 1, in which the dust-proof member is composed of a plurality of dust-proof units.

9. A ball screw according to Claim 1, in which a strengthening member is disposed in each of the circulation portion.