CLAIMS

1. A follower bearing comprising:

an inner member including a first body and a flange, the first body having a rod shape and having an annular first rolling surface in an outer peripheral surface of the first body, the flange having a disk annular shape, disposed on the outer peripheral surface at one end of the first body, having a center axis coaxial with the first body, and having a diameter larger than a diameter of the first body;

an outer ring having an annular first surface, ~~and~~ an annular second rolling surface and an annular second surface in an inner peripheral surface, the first surface facing an outer peripheral surface of the flange, the second rolling surface facing the first rolling surface and having a diameter smaller than a diameter of the first surface, the second surface connecting the second rolling surface and the first surface to each other;

a plurality of rolling elements disposed to be rollable on the first rolling surface and the second rolling surface; and

a first sealing member including an annular first portion and an annular second portion, the first portion being disposed between the outer peripheral surface of the flange and the first surface and at least partially forming a sealing structure between the first portion and the outer ring, the second portion being connected to the first portion,

the flange having a first end surface and a second end surface, the first end surface being at an end of the flange opposite to the first rolling surface in an axial direction, the second end surface being at an end opposite to the first end surface in the axial direction,

the second surface facing the second end surface in the axial direction,

the second portion being disposed between the second end surface and the second surface and projecting inward in a radial direction,

the first portion having an outer diameter that gradually increases toward ~~a~~ the first end surface in the axial direction in a region from a connecting portion with the second portion to a first sealing end face located near the first end surface in the axial direction~~, the first end surface being at an end of the flange opposite to the first rolling surface in an axial direction~~.

2. The follower bearing according to claim 1, wherein the first portion has a tapered shape whose outer diameter gradually increases toward the first end surface.

~~3. The follower bearing according to claim 1 or 2, wherein~~

~~the second rolling surface has a diameter smaller than a diameter of the first surface,~~

~~the outer ring further includes, in the inner peripheral surface, an annular second surface connecting the second rolling surface and the first surface to each other and facing a second end surface, the second end surface being located at an end opposite to the first end surface of the flange in the axial direction, and~~

~~the first sealing member further includes an annular second portion, the second portion being connected to the first portion and disposed between the second end surface and the second surface.~~

3~~4~~. The follower bearing according to claim 1 or 2~~3~~, wherein the second end surface of the flange has a maximum height roughness Rz of 12.5 μm or less.

4~~5~~. The follower bearing according to any one of claims 1 to 3~~4~~, wherein

~~the first sealing member includes a first sealing end surface located near the first end surface in the axial direction, and~~

the first sealing end surface has an outer diameter that gradually decreases toward the first end surface.

5~~6~~. The follower bearing according to claim 4~~5~~, wherein the first sealing end surface has a tapered shape whose outer diameter gradually decreases ~~increases~~ toward the first end surface.

6~~7~~. The follower bearing according to any one of claims 1 to 5 ~~claim 5 or 6~~, wherein the first sealing end surface extends to the first end surface in the axial direction.

7~~8~~. The follower bearing according to any one of claims 1 to 6 ~~7~~, wherein

the inner member further includes a ring fitted in the first body to contact the outer peripheral surface opposite to the flange and having a center axis coaxial with the first body, when seen from the first rolling surface of the first body,

the inner peripheral surface of the outer ring further has an annular third surface and an annular fourth surface, the third surface facing an outer peripheral surface of the ring and having a diameter larger than a diameter of the second rolling surface, the fourth surface connecting the second rolling surface and the third surface to each other and facing a third end surface, the third end surface being near the first rolling surface of the ring in the axial direction,

the follower bearing further includes an annular third portion and an annular fourth portion, the third portion being disposed between the outer peripheral surface of the ring and the third surface and at least partially forming a sealing structure between the third portion and the outer ring, the fourth portion being connected to the third portion and disposed between the third end surface and the fourth surface, and

the fourth portion projects inward in the radial direction,

the third portion has an outer diameter that gradually increases toward a fourth end surface in a region from a connecting portion with the fourth portion to a second sealing end face located near the fourth end surface in the axial direction, the fourth end surface being at an end opposite to the third end surface of the ring in the axial direction.

8~~9~~. The follower bearing according to claim 7~~8~~, wherein the third portion has a tapered shape whose outer diameter gradually increases toward the fourth end surface.

9~~10~~. The follower bearing according to claim 7~~8~~ or 8~~9~~, wherein the third end surface of the ring has a maximum height roughness Rz of 12.5 μm or less.

10~~11~~. The follower bearing according to any one of claims 7~~8~~ to 9~~10~~, wherein

the second sealing member includes a second sealing end surface located near the fourth end surface in the axial direction, and

the second sealing end surface has an outer diameter that gradually decreases toward

the fourth end surface.

11~~12~~. The follower bearing according to claim 10~~11~~, wherein the second sealing end surface has a tapered shape whose outer diameter gradually decreases toward the fourth end surface.

12~~13~~. The follower bearing according to any one of claims 7 to 11~~claim 11 or 12~~, wherein the second sealing end surface extends to the fourth end surface in the axial direction.

13~~14~~. The follower bearing according to any one of claims 7~~8~~ to 12~~13~~, wherein a material constituting the second sealing member is at least a resin selected from the group consisting of polyether ether ketone, polyacetal and polyamide.

14~~15~~. The follower bearing according to any one of claims 1 to 13~~14~~, wherein a material constituting the first sealing member is at least a resin selected from the group consisting of polyether ether ketone, polyacetal, and polyamide.

15~~16~~. The follower bearing according to any one of claims 1 to 14~~15~~, wherein the rolling element is a roller.