38a for putting clothes so at to face front plate opening 43a of front plate 43. A gap between water tub opening 35a of water tub 35 and front plate opening 43a of front plate 43 is sealed with tubular ring-shaped packing member 46 made from an elastic material, such as rubber, to prevent the entry of water from the gap into the main body.

[0006] It is configured that, when cover 39 is closed, the outer periphery of inner cover 53 comes into contact with the inner peripheral surface of lip 46a of packing member 46 to seal a gap between inner cover 53 and lip 46a, whereby leakage of water and steam from the outer periphery of cover 39 is prevented.

[0007] An end of packing member 46, the end being closer to water tub 35, is mounted onto the outer peripheral portion of water tub opening 35a and fixed with wire 52. Flange 46b is formed at an end of packing member 46, the end being closer to front plate 43. When mounting plate 47 is screw-fixed to front plate 43 with screw 51 from the front side, flange 46b of packing member 46 is sandwiched and fixed by recess portion 43b provided in front plate 43 and protruding portion 47a provided in mounting plate 47.

Citation List

[0008] Patent Literature 1: Unexamined Japanese Patent Publication No. 2005-143795

SUMMARY

[0009] However, as illustrated in FIG. 7, the conventional configuration has a problem in which there is a risk that, during washing, small-sized laundry 19 such as socks for children comes out of rotary drum 34, runs onto packing member 46, and stays on packing member 46, so that laundry 19 is not washed, dewatered, or dried.

[0010] The present disclosure provides a front-loading washing machine configured to substantially prevent the occurrence of a problem in which, during washing or on completion of washing, the laundry runs onto the packing member and stays in the packing member.

[0011] In an aspect, a front-loading washing machine according to the present disclosure includes: a main body including a front panel member disposed on the front side of the main body; a water tub swingably and elastically supported inside the main body and including a water tub opening disposed on the front side of the water tub; a rotary drum rotatably contained in the water tub and including a drum opening disposed on the front side of the rotary drum; and a motor configured to rotate the rotary drum. The front-loading washing machine further includes: an opening member disposed in a substantially central portion of the front panel member and including a front opening; a front plate disposed inside the front panel member and including a front plate opening; a cover configured to openably and closably cover the front plate opening; an inner cover provided in the cover and protruding inward of the front plate opening; and a packing member being tubular ring-shaped, made from an elastic material, and configured to be disposed between the front plate opening and the water tub opening to couple the front plate opening to the water tub opening. Furthermore, in the packing member, a protruding rib protruding to be closer to the rotation axis of the rotary drum than to the inner periphery of the drum opening is formed in the vicinity of the drum opening, and the protruding rib is divided at a lowest point of a central portion of the protruding rib.

[0012] The above-described configuration can substantially prevent the occurrence of a problem in which laundry comes out of the rotary drum, runs onto the packing member, and stays on the packing member.

[0013] In the front-loading washing machine according to the present disclosure, a rib is added to the packing member in the vicinity of a rotary drum

CLAIMS

1. A front-loading washing machine, comprising:

a main body including a front panel member disposed on a front side of the main body;

a water tub swingably and elastically supported inside the main body and including a water tub opening disposed on a front side of the water tub;

a rotary drum rotatably contained in the water tub and including a drum opening disposed on a front side of the rotary drum;

a motor configured to rotate the rotary drum;

an opening member disposed in a central portion of the front panel member and including a front opening;

a front plate disposed inside the front panel member and including a front plate opening;

a cover configured to openably and closably cover the front plate opening;

an inner cover provided in the cover and protruding inward of the front plate opening; and

a packing member tubular-ring-shaped, made from an elastic material, and coupled between the front plate opening and the water tub opening,

wherein, in the packing member, a protruding rib protruding to be closer to a rotation axis of the rotary drum than to an inner periphery of the drum opening is formed in a vicinity of the drum opening, and the protruding rib is divided at a lowest point of a central portion of the protruding rib.

2. The front-loading washing machine according to claim 1, wherein the protruding rib is formed to have a face closer to the rotary drum, the face being perpendicular to the rotation axis of the rotary drum.

3. The front-loading washing machine according to claim 1, wherein the protruding rib is formed at least in a range corresponding to a lower semicircle of the packing member.

4. The front-loading washing machine according to claim 2, wherein the protruding rib is formed at least in a range corresponding to a lower semicircle of the packing member.

5. The front-loading washing machine according to any one of claims 1 to 4,

wherein the packing member comprises:

a cylindrical section extending rearward from the front plate opening;

a lip formed in an inner periphery of a front end of the cylindrical section, and configured to, when the cover is closed, come into contact with the inner cover; and

a bulging section having flexibility, and turning forward and outward from a vicinity of a rear end of the cylindrical section to bulge on an outer periphery side of the cylindrical section and be coupled to the water tub opening.