frame body 301, and recess 307 for supporting spring hinge 303 is formed so as to be continuous with insertion hole 306.

Citation List

Patent Literature

PTL 1: Unexamined Japanese Patent Publication No. 2000-167290

PTL 2: Unexamined Japanese Patent Publication No. 2009-207651

PTL 3: Unexamined Japanese Patent Publication No. H06-315597

SUMMARY

However, in the conventional configuration shown in FIGS. 24 to 26, although a sudden impact noise or the like at the time of closing the lid body 257 from an open state is cancelled to a certain extent, when lid body 257 is opened from a closed state, a user is required to open a heavy lid body, since not only resistance of the springs, but also resistance to the rotational force due to meshing between gear portion 269 and rack 265 occur simultaneously. Moreover, there is a problem that since there is no resistance of damper main body 267 when rear lid 258 is opened and stops substantially vertical to top cover 255, a large collision noise occurs between rear lid 258 and a stopper portion of top cover 255.

Additionally, although the conventional example shows a configuration in which lid body 257 is divided into front lid 259 and rear lid 258, as a recent design trend, a large and single-structure lid is commonly used. In this case, there is a problem that when the lid body is raised to open from a closed state, the inertial force of the entire lid body is added to the opening energizing force of toggle spring 270, whereby the lid body is opened sharply to cause a stronger impact noise and discomfort in use.

The present disclosure provides a washing machine in which collision

noise at the time of opening a lid body is suppressed and opening and closing can be done smoothly, while deformation of the periphery of a damper holding body is prevented by secure fixing of the damper holding body and the lid body, so that stabilized work may lead to improvement in productivity.

The washing machine of the present disclosure includes: a top cover placed on an upper part of a washing machine body; a laundry loading port formed in the top cover; a lid body openably covering the laundry loading port; and a rotational impact damper that damps rotation of the lid body axially supported to the top cover. Additionally, the lid body includes the impact damper holding part having a space, and the damper holding body includes a first end and a second end having a hooking protrusion, the first end fixed to the lid body using a screw, the second end fixed to the lid body using the hooking protrusion engaged with an engaging part of the lid body.

With this configuration, the lid body can be closed smoothly while suppressing collision noise. Additionally, when the lid body is opened, the resistance force of the impact damper is reduced by the energizing force of the spring hinge. Hence, the lid body can similarly be opened smoothly while suppressing collision noise.

Moreover, since the damper holding body can be fixed temporarily at the time of assembly, productivity can be improved. In addition, since the damper holding body is reliably fixed to the lid body, deformation and breakage by impact force from rotary motion of the damper can be suppressed, and reliability can be improved.

Additionally, in a lid structure of another conventional washing machine, attachment of a damper holding body that accommodates a damper is an open side type. Hence, a large load is applied on the attachment part, and a heavier lid may deform or break the lid or the damper holding body.

placed on an upper part of a washing machine body; a laundry loading port formed in the top cover; a lid body openably covering the laundry loading port; and a rotational impact damper that damps rotation of the lid body axially supported to the top cover. Additionally, the lid body includes the impact damper holding part having a space, and the damper holding body includes a first end and a second end having a hooking protrusion, the first end fixed to the lid body using a screw, the second end fixed to the lid body using the hooking protrusion engaged with an engaging part of the lid body.

Thus, the lid body can be closed smoothly while suppressing collision noise. Additionally, when the lid body is opened, the resistance force of the impact damper is reduced by the energizing force of the spring hinge. Hence, the lid body can similarly be opened smoothly while suppressing collision noise.

Moreover, since the damper holding body can be fixed temporarily at the time of assembly, productivity can be improved. In addition, since damper holding body is firmly fixed to the lid body, deformation and breakage by impact force from rotary motion of the damper can be suppressed, and reliability can be improved.

Additionally, the present invention includes: a top cover placed on an upper part of a washing machine body; a lid body axially supported above the top cover in an openable manner by a lid hinge shaft; a lid spring that energizes the lid body to the opening direction; a spring shaft that supports the lid spring; a rotational impact damper that damps rotation of the lid body; and a damper holding body that accommodates the impact damper. Additionally, the damper holding body includes an attachment rib for fixing with the lid body by a screw or the like, and a positioning rib in substantially the opposite direction of the attachment rib, and the lid body has an attachment part attached with the attachment rib by the screw or the like, and a groove into

CLAIMS

1. A washing machine comprising:

a top cover placed on an upper part of a washing machine body;

a laundry loading port formed in the top cover;

a lid body openably covering the laundry loading port; and

a rotational impact damper that damps rotation of the lid body axially supported to the top cover, wherein

the lid body includes the impact damper holding part having a space, and

the damper holding body includes a first end and a second end having a hooking protrusion, the first end fixed to the lid body using a screw, the second end fixed to the lid body using the hooking protrusion engaged with an engaging part of the lid body.

2. The washing machine according to claim 1, wherein the engaging part is a groove part.

3. A washing machine comprising:

a top cover placed on an upper part of a washing machine body;

a lid body axially supported above the top cover in an openable manner by a lid hinge shaft;

a lid spring that energizes the lid body to an opening direction;

a spring shaft that supports the lid spring;

a rotational impact damper that damps rotation of the lid body; and

a damper holding body that accommodates the impact damper, wherein

the damper holding body includes an attachment rib for fixing with the lid body by a screw or another part, and a positioning rib in a direction