contained in the water tub and accommodates laundry, a motor which rotates the rotary drum, a foam generator which generates foam and supplies the foam to the storage tub, and a circulation pump which supplies the washing liquid in the storage tub to the foam generator. The foam generator includes a housing. The interior of the housing is partitioned into a water supply path which serves as a passage for washing liquid supplied from the circulation pump, and a foam generation chamber which communicates with the water supply path. The water discharged through the discharge outlet of the supply path collides with the liquid surface of the washing liquid stored in the foam generation chamber, so that detergent foam is generated (see, for example, PTL 2).

Citation List

Patent Literature

[0004]

[PTL 1] Japanese Unexamined Patent Application Publication No. H11-114286
[PTL 2] Japanese Unexamined Patent Application Publication No. 2016-43184

SUMMARY ~~(SUMMARY OF THE INVENTION)~~

[0005]

The present disclosure provides a front-loading washing machine which prevents the air heated by a dryer from entering a detergent holder and also prevents detergent and water from reaching the interior of a rotary drum at an inappropriate timing.

[0006]

A front-loading washing machine according to the present disclosure includes: a main body housing; a water tub which is supported in the main body housing in a swingable manner; a rotary drum which is rotationally provided in

the water tub; and a detergent dispenser which supplies detergent to the water tub or the rotary drum. The detergent dispenser includes: a detergent holder in which the detergent is put; a first flow path connected to the detergent holder and including a reservoir in which liquid can be stored; a second flow path which communicates with the first flow path at downstream of and above the reservoir, and is connected to the water tub; and a third flow path which communicates with the first flow path at downstream of and above an opening of the second flow path, and communicates with an interior of the rotary drum.

[0007]

The front-loading washing machine according to the present disclosure prevents the air heated by the dryer from entering the detergent holder, and also prevents the detergent and water from reaching the interior of the rotary drum at an inappropriate timing.

[0008]

In addition, the present disclosure provides a front-loading washing machine capable of generating detergent foam with a simple configuration.

[0009]

A front-loading washing machine according to the present disclosure includes: a main body housing; a water tub which is elastically supported in the main body housing in a swingable manner; a rotary drum which is rotatably contained in the water tub and accommodates laundry; a motor which rotates the rotary drum; a detergent dispenser which supplies detergent to the water tub or the rotary drum; and a water supply device which supplies water to the detergent dispenser. The detergent dispenser includes: a detergent holder in which the detergent is put; a reservoir in which the detergent flowed down from the detergent holder is stored, and which is provided below the detergent holder: and an ejection hole which is provided above the reservoir and through

in which detergent is put, a first flow path connected to detergent holder 6 and including reservoir 42 in which liquid can be stored, and a second flow path which communicates with the first flow path at downstream of and above reservoir 42 and is connected to water tub 11. The detergent dispenser further includes a third flow path which communicates with the first flow path at downstream of and above an opening of the second flow path and also communicates with the interior of rotary drum 10.

[0053]

With this configuration, a small amount of liquid flows down into the second ~~third~~ flow path and reaches water tub 11, so that the liquid is not discharged into rotary drum 10 via the third ~~second~~ flow path. Accordingly, when the user supplies detergent, it is possible to prevent the detergent put in detergent holder 6 from immediately reaching the interior of rotary drum 10.

[0054]

As in the present embodiment, the second flow path may include telescopic hose 45 which includes a portion connected with water tub 11 and is fixed to main body housing 1 in a swingable manner.

[0055]

With this configuration, telescopic hose 45 absorbs the swinging of water tub 11 and is fixed to main body housing 1 by engagement member 44, so that the vibration is not transmitted to divergent path 43.

[0056]

(Other Embodiments)

As described above, the first embodiment has been described as an example of the technique disclosed in the present application. However, the technique according to the present disclosure is not limited to such an example.

[0057]

As such, other embodiments will be described below.

[0058]

In the first embodiment, discharge outlet 81 provided in annular gasket 8 has been described as an example of the opening of the third ~~second~~ flow path which communicates with the interior of rotary drum 10. The opening of the third ~~second~~ flow path may be any one which communicates with the interior of rotary drum 10. Accordingly, the opening of the third ~~second~~ flow path may be provided in a portion other than annular gasket 8.

[0059]

In the first embodiment, water delivery member 31 and reservoir member 40 have been described as an example of the first flow path including the reservoir. The shape of reservoir member 40 is not limited to the shape that bends in a generally V-shape as long as reservoir 42 is provided at the lowest position. For example, reservoir member 40 may have a generally U-shape.

[0060]

Hereinafter, other operations and effects of the front-loading washing machine according to the first embodiment will be described in detail with reference to the drawings. It is to be noted that the present disclosure is not limited by the accompanying drawings and the following description.

[0061]

[Basic Configuration of Front-Loading Washing Machine]

Although the configuration of the front-loading washing machine according to the first embodiment has already been described with reference to FIG. 1 to FIG. 5, other operations and effects of the front-loading washing machine according to the first embodiment will be described with reference to FIG. 6 to FIG. 12.

circumferential wall 541 and outer bottom wall 542.

[0070]

Outer peripheral wall 543 of water tub 540 includes front peripheral wall 545 to which outer circumferential wall 541 is attached and rear peripheral wall 546 arranged between outer bottom wall 542 and front peripheral wall 545.

[0071]

Motor 520 includes main body 521 which generates driving force and drive shaft 522 which transmits the driving force to rotary drum 530. Drive shaft 522 penetrates outer bottom wall 542 and is connected to inner bottom wall 532. FIG. 8 illustrates rotation axis RX of rotary drum 530 defined by motor 520. Foam generator 450 to be described later is arranged above rotation axis RX.

[0072]

FIG. 9 is a block circuit diagram of the front-loading washing machine according to the first ~~a second~~ embodiment. FIG. 10 is a partially see-through top view of the front-loading washing machine according to the second embodiment.

[0073]

In FIG. 9, the solid arrows indicate the flow of water, the dashed arrows indicate the flow of air, and the dashed dotted arrows indicate the transmission path of a control signal.

[0074]

In FIG. 9 and FIG. 10, washing machine 100 includes main body housing 200, controller 300, water supply device 400, washing device 500, and dryer 600.

[0075]

Main body housing 200 internally houses controller 300, water supply

CLAIMS

1. A front-loading washing machine, comprising:

a main body housing;

a water tub which is supported in the main body housing and is swingable in the main body housing;

a rotary drum which is rotationally provided in the water tub; and

a detergent dispenser which supplies detergent to at least one of the water tub and the rotary drum,

wherein the detergent dispenser includes:

a detergent holder in which the detergent is put;

a first flow path connected to the detergent holder and including a reservoir in which liquid is stored;

a second flow path which communicates with the first flow path at downstream of and above the reservoir, the second flow path being connected to the water tub; and

a third flow path which communicates with the first flow path at downstream of and above an opening of the second flow path, and communicates with an interior of the rotary drum.

2. The front-loading washing machine according to claim 1,

wherein the second flow path includes a hose portion including a portion connected with the water tub, the hose portion being fixed to the main body housing in a swingable manner.

3. A washing machine, comprising:

a main body housing;

a water tub which is elastically supported in the main body and is