## DESCRIPTION

DRUM-TYPE WASHING MACHINE

## TECHNICAL FIELD

[0001] The present disclosure relates to a drum-type (front-loading) washing machine, and particularly to a so-called washing tub maintenance.

## BACKGROUND ART

[0002] Patent Literature (PTL) 1 discloses a washing machine which includes a tub cleaning course. The washing machine includes a water tub, a rotary tub which is rotatably housed in the water tub, and a driving means which rotates the rotary tub. The tub cleaning course performs a first process in combination with a second process. The first process is a process of rotating the rotary tub at a first rotational speed in a state where water is filled in the water tub to a water level that is higher than the water level in the washing process of a clothes washing course. The second process is a process of rotating the rotary tub at a second rotational speed that is higher than the first rotational speed, with a centrifugal force acting on the water adhered to the rotary tub that is greater than gravity and less than the resonance point.

[0003] Moreover, the rotation direction at the second rotational speed is only one direction, and the rotation direction is set such that the water blown from the rotary tub at the time of rotation of the rotary tub is less likely to flow into the dry air channel which is positioned in the upper portion of the water tub.

## Citation List

### Patent Literature

[0004] [PTL 1] Japanese Unexamined Patent Application Publication No. 2016-43171

## SUMMARY ~~SUMMARY OF THE INVENTION~~

[0005] ~~In one aspect, t~~The present disclosure ~~refers~~ provides to a drum-type (front-loading) washing machine which is capable of efficiently removing the grime on the inner surface of the water tub and the inner and outer surfaces of the rotary tub within a short period without using a tub cleaning agent, and keeping the water tub and the rotary tub clean more easily.

[0006] In one aspect, the present disclosure refers to ~~A~~a drum-type washing machine ~~according to the present disclosure includes~~ comprising a water tub, a rotary tub, a motor, a water supply unit, a draining unit, a drain outlet, an overflow outlet, and a controller.

The water tub stores water. The rotary tub is rotatably provided in the water tub. The motor drives the rotary tub. The water supply unit

is provided to supply~~ies~~ water into the water tub. The draining unit is provided to drain~~s~~ water in the water tub. The drain outlet is provided in ~~the~~ a lower portion of the water tub. The overflow outlet is provided on the water tub and above the drain outlet. The controller performs a first process after causing the water supply unit to supply water into the water tub, and performs a second process after causing the draining unit to drain the water in the water tub through the drain outlet and causing the water supply unit to supply water into the water tub again. The first process is a process of causing the motor to rotate~~ing~~ the rotary tub in a first rotation direction at a rotational speed at which the water in the water tub is lifted to the height of the overflow outlet. The second process is a process of causing the motor to rotate the rotary tub in a second rotation direction that is opposite to the first rotation direction. The first rotation direction is ~~set such that~~a direction in which ~~the~~ a lower portion of the rotary tub is directed toward the overflow outlet.

[0007] The drum-type washing machine according to the present disclosure is capable of efficiently removing the grime on the inner surface of the water tub and the inner and outer surfaces of the rotary tub within a short period without using a tub cleaning agent, and keeping the water tub and the rotary tub clean more easily.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0008]

[FIG. 1] FIG. 1 is a side cross-sectional view of a drum-type washing machine according to a first embodiment.

[FIG. 2] FIG. 2 is a flowchart illustrating an operation of a maintenance course of the drum-type washing machine according to the first embodiment.

[FIG. 3A] FIG. 3A is a schematic front view of a water tub and a rotary drum of the drum-type washing machine in a first process according to the first embodiment.

[FIG. 3B] FIG. 3B is a schematic front view of the water tub and the rotary drum of the drum-type washing machine in the first process according to the first embodiment.

[FIG. 3C] FIG. 3C is a schematic front view of the water tub and the rotary drum of the drum-type washing machine in a second process according to the first embodiment.

## DESCRIPTION OF EMBODIMENT

[0009] (Underlying Knowledge Forming Basis of the Present Disclosure)

At the time when the inventor arrived at the present disclosure, a conventional

washing machine was known which included a tub cleaning course in which a tub