THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. System comprising:

an external cleaning device; and

a filtration device, which filtration device is provided with a filtration container having layers of a particulate filtration material at the inside and is adapted for filtering a supplied unfiltered liquid by the layers of the filtration material to remove muddiness in the liquid and discharging the cleaned liquid to the outside,

the cleaning device being adapted for cleaning the particulate filtration material of the filtration device and comprises:

an outer tube,

a screw conveyor rotatably placed in the outer tube for transferring the filtration material upward from an inlet at one end portion of the outer tube to an outlet at an other end portion of the outer tube, while rub-washing the filtration material,

a drive section connected with the screw conveyor at the other end portion of the outer tube for rotationally driving the screw conveyor,

a control section for controlling rotation of the drive section,

an introduction tube, which is connected with one end to the inlet of the outer tube and engages with the respective other end with the filtration layers so as to introduce the filtration material from the inside of the filtration container into the outer tube, and

a discharge tube, which is connected with one end to the outlet of the outer tube and is adapted to discharge the filtration material, having been rub-washed, from the inside of the outer tube into the filtration container.

2. System according to claim 1, wherein the screw conveyor is provided with an agitating blade for agitating the introduced filtration material, which agitating blade is located at an end portion of the screw conveyor next to the one end portion of the outer tube.

3. System according to claim 2, wherein the end portion of the outer tube, which end portion is located at a position corresponding to the position of the agitating blade, is constituted as an enlarged diameter section.

4. System according to one of the preceding claims wherein the screw conveyor is provided with a hollow shaft and a spiral blade, which is formed in a spiral pattern around the hollow shaft, and

the hollow shaft having an open end has holes on a surface thereof which enable the liquid having been introduced into the outer tube to flow from the outside of the hollow shaft into the inside of the hollow shaft and flow out of the open end.

5. System according to one of the preceding claims, wherein the discharge tube extends along a circumference of the inside of the filtration tank.

6. System according to one of the preceding claims, wherein the filtration container comprises:

a port formed at a part of an outer shell body of the container and

an inside tube with an opening located relative to the filtration layers in such a way that a reverse cleaning liquid can be continuously injected through the port into

the container such that the reverse cleaning is discharged through the opening and the inside tube to the outside of the container, whereas the filtration material of the filtration layers flows at most up to a level below the opening.

7. Method for cleaning particulate filtration material in a system according to claim 6, comprising the steps of:

ceasing filtration of the supplied unfiltered liquid,

continuously injecting cleaning liquid through the port such that the reverse cleaning liquid is discharged through the opening and the inside tube to the outside of the container, whereas the filtration material of the filtration layers flows at most up to a level below the opening, and

actuating a motor of the drive section to rotationally drive the screw conveyor and controlling the rotation of the drive section by means of the control section.

8. A system according to claim 1 substantially as hereinbefore described with reference to the accompanying drawings.

9. A method for cleaning particulate filtration material in a system according to claim 7 substantially as hereinbefore described with reference to the accompanying drawings.