

ABSTRACT

APPARATUS FOR WASTEWATER

5 [Abstract]

[Object] With the aid of a wastewater treatment method that uses microorganism granules, there is provided a wastewater treatment apparatus which can suppress undesired outflow of the microorganism granules into treated water, which would be
10 caused by fragmentation of the microorganism granules, by effectively separate bubbles from bubble adhered microorganism granules and minimizing the contact between the bubbles and the microorganism granules, and can operate under a high load while producing a stable quality of treated water without lowering the
15 wastewater treatment efficiency.

[Means of achieving Object] A spiral plate 3 is provided in a reactor vessel 1. Bubbles 10 and bubble adhered microorganism granules 12 that rise from a sludge bed 9 are forced to rise along a lower surface of the spiral plate 3. During this rising, once the
20 bubbles 10 are separated from the microorganism granules 11 due to the flow and contact caused by the bubbles 10 and the impact of contact with the spiral plate 3, the microorganism granules 11 slip down along an upper surface of the spiral plate 3 that is located below that lower surface of the spiral plate 3 and
25 return to the sludge bed 9 located in a lower part of the reactor vessel 1, and the microorganism granules 11 in the bed 9 are again mixed and contacted with wastewater 6 to contribute to a biodegradation treatment.

30

Fig. 1