(54) SEMICONDUCTOR-WAFER CLEANING APPARATUS
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PURPOSE: To clean the inner surface of a trench hole and to improve the quality and the yield rate of a semiconductor wafer by reducing the pressure in a pressure container, and performing the substitution of a bubble and cleaning liquid which remain in the trench hole.

CONSTITUTION: Cleaning liquid 21 wherein a semiconductor wafer W is immersed is stored in a cleaning tank 22. An ultrasonic wave oscillating device 2 which applies ultrasonic wave oscillation into the cleaning liquid 21 is arranged in the tank 22. A pressure container 2 wherein the cleaning tank 22 is internally accommodated and a pressure applying means 11 and a pressure reducing means 6 are arranged is provided. Then, the semiconductor wafer W to be cleaned is immersed into the cleaning liquid 21. With ultrasonic wave oscillation being applied into the cleaning liquid 21, pressure applying and pressure reducing manipulations are performed in the pressure container 2. Then, the balance between the pressure of the cleaning liquid 21 which is balanced under the atmospheric pressure and the pressure of a bubble 32 which is formed on the surface of the semiconductor wafer W and remains in the trench hole is changed. The volume of the bubble 32 expands, and the bubble 32 is pushed out of the trench hole T. The cleaning liquid 2 enters into the hole at the same time.