WHAT IS CLAIMED IS:

1. A cleaning apparatus comprising:

a spinner table for holding a workpiece thereon;

a cleaning nozzle for supplying cleaning water to the workpiece held on the spinner table;

an ultrasonic vibrator for applying ultrasonic vibrations to the cleaning water supplied from the cleaning nozzle to the workpiece;

a water layer forming unit for forming a layer of the cleaning water in a clearance between the cleaning nozzle and the workpiece, the water layer forming unit having a cover surrounding the cleaning nozzle; and

a drain unit for draining the cleaning water out of the cleaning apparatus, the drain unit having a flow channel for allowing the cleaning water supplied from the cleaning nozzle to the workpiece to flow therethrough, wherein

the flow channel of the drain unit includes

a first flow channel having an end connected to the cover of the water layer forming unit,

a joint region connected to another end of the first flow channel,

a second flow channel having an end connected to the joint region, and

a suction flow channel, connecting a suction source to the joint region, through which a gas separated from the cleaning water flows.

2. The cleaning apparatus according to claim 1, wherein

when the suction source is actuated, a negative pressure acts in the joint region, causing the cleaning water staying in the cover to flow through the first flow channel into the joint region.

3. The cleaning apparatus according to claim 2, wherein

the magnitude of the negative pressure produced by the suction source is adjusted within such a range that the cleaning water staying in the cover flows through the first flow channel into the joint region, but not into the suction flow channel, and

the cover is not attracted under suction to the workpiece on the spinner table.

4. The cleaning apparatus according to any one of the preceding claims, wherein

a mesh for promoting gas-liquid separation is disposed in an upper portion of the joint region.

5~~2~~. The cleaning apparatus according to claim 1, further comprising:

an external nozzle for supplying the cleaning waternozzle toward a gap between the cover of the water layer forming unit and the workpiece, on an outside of the cover.

63. The cleaning apparatus according to claim 1, wherein

the flow channel of the drain unit includes

a first flow channel having an end connected to the cover of the water layer forming unit,

a joint region connected to another end of the first flow channel, and

athe second flow channel is connected to the lower end of the joint region and the cleaning water in the joint region flows by gravity into the second flow channelhaving an end connected to the joint region.

74. The cleaning apparatus according to claim 1, wherein

the drain unit further includes

a turbidimeter for detecting a turbidity of the cleaning water flowing through the flow channel in determining whether cleaning of the workpiece has been completed or not.

85. The cleaning apparatus according to claim 52, wherein

~~the flow channel of the drain unit includes~~

~~a first flow channel having an end connected to the cover of the water layer forming unit,~~

~~a joint region connected to another end of the first flow channel, and~~

the~~a~~ second flow channel is connected to the lower end of the joint region and the cleaning water in the joint region flows by gravity into the second flow channel~~having an end connected to the joint region~~.

9~~6~~. The cleaning apparatus according to claim 5~~2~~, wherein

the drain unit further includes

a turbidimeter for detecting a turbidity of the cleaning water flowing through the flow channel in determining whether cleaning of the workpiece has been completed or not.

10~~7~~. The cleaning apparatus according to claim 8~~5~~, wherein

the drain unit further includes

a turbidimeter for detecting a turbidity of the cleaning water flowing through the flow channel in determining whether cleaning of the workpiece has been completed or not.