

What is claimed is:

1. A substrate cleaning apparatus comprising:

a substrate holding mechanism configured to hold and rotate a substrate;

5 a cleaning-liquid supply nozzle configured to supply a cleaning liquid onto the substrate held by the substrate holding mechanism;

a roll cleaning tool configured to clean the substrate by rubbing the substrate in the presence of the cleaning liquid; and

10 a suction system coupled to the roll cleaning tool and configured to suck the cleaning liquid from the substrate through the roll cleaning tool.

2. The substrate cleaning apparatus according to claim 1, wherein the suction system includes:

a cleaning liquid suction pipe coupled to the roll cleaning tool;

15 a vacuum line coupled to the cleaning liquid suction pipe; and

a suction valve attached to the cleaning liquid suction pipe.

3. The substrate cleaning apparatus according to claim 2, further comprising a controller configured to control operation of the suction valve, the controller being

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configured to keep the suction valve open during cleaning of the substrate with the roll cleaning tool.

4. The substrate cleaning apparatus according to claim 2, wherein:

5 the roll cleaning tool includes a shaft and a sponge member that covers a peripheral surface of the shaft;

the shaft has a main flow passage extending in the shaft, a plurality of openings formed in the peripheral surface of the shaft, and a plurality of branch flow passages providing fluid communication between the main flow passage and the plurality of  
10 openings; and

the cleaning liquid suction pipe is coupled to the main flow passage.

5. The substrate cleaning apparatus according to claim 2, further comprising an inner rinsing liquid supply line coupled to the cleaning liquid suction pipe, a connection  
15 point between the cleaning liquid suction pipe and the inner rinsing liquid supply line being located between the suction valve and the roll cleaning tool.

6. A substrate cleaning method comprising:

supplying a cleaning liquid onto a substrate and rubbing a roll cleaning tool  
20 against the substrate in the presence of the cleaning liquid, while sucking the cleaning liquid from the substrate through the roll cleaning tool.

7. A substrate processing apparatus comprising:

a polishing unit configured to polish a substrate; and  
25 a substrate cleaning apparatus configured to clean the substrate that has been polished by the polishing unit,  
wherein the substrate cleaning apparatus includes:  
a substrate holding mechanism configured to hold and rotate the substrate;

a cleaning-liquid supply nozzle configured to supply a cleaning liquid onto the substrate held by the substrate holding mechanism;

a roll cleaning tool configured to clean the substrate by rubbing the substrate in the presence of the cleaning liquid; and

5 a suction system coupled to the roll cleaning tool and configured to suck the cleaning liquid from the substrate through the roll cleaning tool.