

WHAT IS CLAIMED IS:

1. A cleaning apparatus comprising:

an inlet for a target object;

an outlet for the object;

a first conveyance path on which the object input through the inlet is conveyed;

a second conveyance path on which the object is conveyed in a direction opposite to a direction of conveyance of the object on the first conveyance path and that is connected with the first conveyance path and the outlet;

a cleaning unit disposed on the first conveyance path and configured to clean the object in a non-contacting manner; and

a drying unit disposed on the first conveyance path and configured to dry the object in a non-contacting manner, wherein:

the first conveyance path and the second conveyance path are vertically arranged side by side,

the second conveyance path is positioned above the first conveyance path and connected with the outlet at an end point,

the second conveyance path functions as a stocker configured to stop the conveyance of the object and temporarily store the object, and

the cleaning apparatus further comprises a blowing unit disposed on the second conveyance path and configured to send gas downward from above.

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

a vertical conveyance path connecting the first conveyance path and the second conveyance path; and

a vertical conveyance mechanism configured to convey the object in a vertical direction through the vertical conveyance path from the first conveyance path to the second conveyance path.

3. The cleaning apparatus according to claim 1, further comprising:

an inlet shutter configured to open and close the inlet; and

an outlet shutter configured to open and close the outlet.

4. The cleaning apparatus according to claim 1, wherein the cleaning unit includes:

a first cleaning unit configured to spray cleaning liquid onto the object; and

a second cleaning unit configured to spray cleaning liquid and gas simultaneously onto the object.

5. A cleaning apparatus comprising:

an inlet for a target object;

an outlet for the object;

a first conveyance path on which the object input through the inlet is conveyed;

a second conveyance path on which the object is conveyed in a direction opposite to a direction of conveyance of the object on the first conveyance path

and that is connected with the first conveyance path and the outlet;

a cleaning unit disposed on the first conveyance path and configured to clean the object in a non-contacting manner; and

a drying unit disposed on the first conveyance path and configured to dry the object in a non-contacting manner,

the cleaning apparatus further comprising:

an outlet shutter configured to open and close the outlet; and

a blowing unit disposed at an end point of the second conveyance path and configured to send gas downward from above,

wherein the second conveyance path functions as a stocker configured to stop the conveyance of the object and temporarily store the object.

6. The cleaning apparatus according to claim 5, further comprising:

a vertical conveyance path connecting the first conveyance path and the second conveyance path; and

a vertical conveyance mechanism configured to convey the object in a vertical direction through the vertical conveyance path from the first conveyance path to the second conveyance path.

7. The cleaning apparatus according to claim 5, further comprising an inlet shutter configured to open and close the inlet.

8. The cleaning apparatus according to claim 5, wherein the cleaning unit includes:

a first cleaning unit configured to spray cleaning liquid onto the object; and

a second cleaning unit configured to spray cleaning liquid and gas simultaneously onto the object.

9. A plating apparatus comprising the cleaning apparatus according to claim 1, further comprising:

a processing unit; and

a substrate conveying unit,

wherein the substrate conveying unit is configured to input the object that has been subjected to plating processing by the processing unit to the inlet of the cleaning apparatus and take the object processed by the cleaning apparatus out of the outlet.

10. A cleaning apparatus comprising:

an inlet for a target object;

an outlet for the object;

a first conveyance path on which the object input through the inlet is conveyed;

a second conveyance path on which the object is conveyed in a direction opposite to a direction of conveyance of the object on the first conveyance path and that is connected with the first conveyance path and the outlet;

a cleaning unit disposed on the first conveyance path and configured to clean the object in a non-contacting manner; and

a drying unit disposed on the first conveyance path and configured to dry the object in a non-contacting

manner, wherein:

the first conveyance path and the second conveyance path are vertically arranged side by side, and

the second conveyance path is positioned above the first conveyance path and connected with the outlet at an end point,

the cleaning apparatus further comprising:

an outlet shutter configured to open and close the outlet; and

a blowing unit disposed at the end point of the second conveyance path and configured to send gas downward from above.

11. The cleaning apparatus according to claim 10, wherein the second conveyance path functions as a stocker configured to temporarily store the object.

12. The cleaning apparatus according to claim 10 further comprising:

a vertical conveyance path connecting the first conveyance path and the second conveyance path; and

a vertical conveyance mechanism configured to convey the object in a vertical direction through the vertical conveyance path from the first conveyance path to the second conveyance path.

13. The cleaning apparatus according to claim 10, further comprising an inlet shutter configured to open and close the inlet.

14. The cleaning apparatus according to claim 10,

wherein the cleaning unit includes:

a first cleaning unit configured to spray cleaning liquid onto the object; and

a second cleaning unit configured to spray cleaning liquid and gas simultaneously onto the object.

15. A plating apparatus comprising the cleaning apparatus according to claim 10, further comprising:

a processing unit; and

a substrate conveying unit,

wherein the substrate conveying unit is configured to input the object that has been subjected to plating processing by the processing unit to the inlet of the cleaning apparatus and take the object processed by the cleaning apparatus out of the outlet.

16. A method of cleaning a target object in a cleaning apparatus, the cleaning apparatus including an inlet for the object, an outlet for the object, a first conveyance path on which the object input through the inlet is conveyed, a second conveyance path on which the object is conveyed in a direction opposite to a direction of conveyance of the object on the first conveyance path and that is connected with the first conveyance path and the outlet, and an outlet shutter configured to open and close the outlet, the method comprising:

a process of inputting the object into the cleaning apparatus through the inlet;

a process of conveying the object along the first conveyance path;

a cleaning process of cleaning the object in a non-contacting manner on the first conveyance path;

a drying process of drying the object in a non-contacting manner on the first conveyance path;

a process of conveying the object along the second conveyance path; and

a process of taking the object out of the outlet,
wherein

the first conveyance path and the second conveyance path are vertically arranged side by side, and

the first conveyance path is positioned below the second conveyance path and connected with the outlet at an end point,

the cleaning method further comprising a blowing process of sending gas downward from above at the end point of the second conveyance path.

17. The cleaning method according to claim 16, further comprising a process of temporarily storing the object on the second conveyance path.

18. The cleaning method according to claim 16, further comprising a process of conveying the object in a vertical direction from the first conveyance path to the second conveyance path.

19. The cleaning method according to claim 16, wherein the cleaning process includes:

a first cleaning process of spraying cleaning liquid onto the object, and

a second cleaning process of spraying cleaning liquid

and gas simultaneously onto the object.