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TITLE: WASHING MACHINE FOR INTEGRATED CIRCUIT BOARDS

BACKGROUND OF THE INVENTION

The present invention relates to a washing machine for integrated circuit boards. More particularly, the present invention relates to a washing machine for integrated circuit boards which can wash various sizes of integrated circuit boards.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a washing machine for integrated circuit boards which can wash various sizes of integrated circuit boards.

Another object of the present invention is to provide a washing machine for integrated circuit boards which has an upper conveyer net to move upward or downward according to the sizes of integrated circuit boards.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a washing machine for integrated circuit boards of a preferred embodiment in accordance with the present invention;

FIG. 2 is an elevational schematic view showing an arrangement of various elements of a washing machine for integrated circuit boards of a preferred embodiment in accordance with the present invention;

FIG. 2A is a top plan view of FIG. 2;

FIG. 2B is a left elevational view of FIG. 2;

FIG. 3 is a perspective view of an upper conveyer net and a lower conveyer net of a preferred embodiment in accordance with the present invention;

FIG. 4 is a schematic view showing an integrated circuit board passing through a spacing between an upper conveyer net and a lower conveyer net of a preferred embodiment in accordance with the present invention;

FIG. 5 is a schematic view showing an adjustment of an upper conveyer net of a preferred embodiment in accordance with the present invention;

FIG. 5A is a schematic view showing an adjustment of a lower conveyer net of a preferred embodiment in accordance with the present invention;

FIG. 6 is a schematic view showing an operation of a greasy dirt tank set of a preferred embodiment in accordance with the present invention;

FIG. 7 is a schematic view showing a connection of an upper conveyer net and a lower conveyer net of a preferred embodiment in accordance with the present invention; and

FIG. 8 is a partially perspective view of a rear portion of a washing machine for integrated circuit boards of a preferred embodiment in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 1 to 8, a washing machine for integrated circuit boards comprises an outer casing 28, an upper conveyer net 11, a lower conveyer net 23, a first idle wheel 33, a second idle wheel 39, a third idle wheel 34, an upper tension adjustment wheel 34, an upper drive wheel 35, an upper pressing wheel 45, an idler 36, a lower tension adjustment wheel 38, a lower drive wheel 37, a lower pressing wheel 46, a fourth idle wheel 40, a fifth idle wheel 41, and a plurality of drying ovens 50 disposed in the upper conveyer net 11 and the lower conveyer net 23.

The outer casing 28 receives the upper conveyer net 11, the lower conveyer net 23, the first idle wheel 33, the second idle wheel 39, the third idle wheel 34, the upper tension adjustment wheel 34, the upper drive wheel 35, the upper pressing wheel 45, the idler 36, the lower tension adjustment wheel 38, the lower drive wheel 37, the lower pressing wheel 46, the fourth idle wheel 40, and the fifth idle wheel 41.

The upper conveyer net 11 surrounds the first idle wheel 33, the second idle wheel 39, the third idle wheel 44, the upper tension adjustment wheel 34, the upper drive wheel 35, and the upper pressing wheel 45.

The lower conveyer net 23 surrounds the idler 36,

the lower tension adjustment wheel 38, the lower drive wheel 37, the lower pressing wheel 46, the fourth idle wheel 40, and the fifth idle wheel 41.

A plurality of pressing rollers 12 are disposed in the upper conveyer net 11.

A motor 17 drives the lower drive wheel 37 to rotate. The lower drive wheel 37 cooperates with the idler 36, the lower tension adjustment wheel 38, the lower pressing wheel 46, the fourth idle wheel 40, and the fifth idle wheel 41.

The upper drive wheel 35 cooperates with the third idle wheel 44, the upper tension adjustment wheel 34, the upper drive wheel 35, the upper pressing wheel 45, the first idle wheel 33, and the second idle wheel 39.

The lower pressing wheel 46 stretches the lower conveyer net 23.

The upper pressing wheel 45 stretches the upper conveyer net 11.

A touch-controlled screen 4 is disposed on the outer casing 28. The touch-controlled screen 4 has an electric source switch 6, a pure water indicating meter 7, and a water temperature indicating meter 8.

An emergency stopping button 2 is disposed on the outer casing 28.

A plurality of water spraying pipes 10 are disposed

between the upper conveyer net 11 and the lower conveyer net 23. A plurality of wind producing devices 13 are disposed between the upper conveyer net 11 and the lower conveyer net 23.

A pump 21 pumps water to the water spraying pipes 10. Each of the water spraying pipes 10 is connected to a water tank 49. The water tank 49 has a washing liquid 55 and a plurality heaters 22 heating the washing liquid 55. The outer casing 28 has a colorful alarm light 5, a water pressure meter 3, a timing sensor 42, an air outlet 9, a plurality of wind pressure meters 14, a high pressure windmill 18, an air inlet 47, an emergency electric dynamo 43, a side cover 26, a handle 26 disposed on the side cover 26, a top cover 29, a support rod 30 connected to the top cover 29, an inner upper cover 31, an inner side cover 32, a water filter net 24, and an air filter device 25.

The high pressure windmill 18 provides high pressure air for the wind producing devices 13.

An input end 1 is formed on a front end of the outer casing 28. An output end 16 is formed on a rear end of the outer casing 28. A plurality of integrated circuit boards (not shown in the figures) enters the outer casing 28 via the input end 1 and leaves the outer casing 28 via the output end 16.

The upper conveyer net 11 and the lower conveyer net 23 are connected by a connection thread 57 and a plurality of connection strings 56.

A grease dirt tank 48 is adjacent to the water tank 49. A grease dirt outlet 59 is formed on a bottom of the grease dirt tank 48.

When the water spraying pipes 10 wash the integrated circuit boards, the grease dirt 54 on the integrated circuit boards will flow into the water tank 49 and the grease dirt tank 48.

An adjustment bar 53 is connected to the upper pressing wheel 45. A blocking bar 52 is disposed on the adjustment bar 53.

Another adjustment bar 53 is connected to the lower pressing wheel 46. A blocking block 58 is disposed on the adjustment bar 53. A spring 51 is disposed between the lower pressing wheel 46 and the blocking block 58.

A plurality of casters 19 and a plurality of bottom feet 20 are disposed on a bottom of the outer casing 28.



I CLAIM:

1. A washing machine for integrated circuit boards comprising an outer casing 28, an upper conveyer net 11, a lower conveyer net 23, a first idle wheel 33, a second idle wheel 39, a third idle wheel 34, an upper tension adjustment wheel 34, an upper drive wheel 35, an upper pressing wheel 45, an idler 36, a lower tension adjustment wheel 38, a lower drive wheel 37, a lower pressing wheel 46, a fourth idle wheel 40, a fifth idle wheel 41, and a plurality of drying ovens 50 disposed in the upper conveyer net 11 and the lower conveyer net 23, characterized in that:

the outer casing 28 receives the upper conveyer net 11, the lower conveyer net 23, the first idle wheel 33, the second idle wheel 39, the third idle wheel 34, the upper tension adjustment wheel 34, the upper drive wheel 35, the upper pressing wheel 45, the idler 36, the lower tension adjustment wheel 38, the lower drive wheel 37, the lower pressing wheel 46, the fourth idle wheel 40, and the fifth idle wheel 41,

the upper conveyer net 11 surrounds the first idle wheel 33, the second idle wheel 39, the third idle wheel 44, the upper tension adjustment wheel 34, the upper drive wheel 35, and the upper pressing wheel 45,

the lower conveyer net 23 surrounds the idler 36, the lower tension adjustment wheel 38, the lower drive



wheel 37, the lower pressing wheel 46, the fourth idle wheel 40, and the fifth idle wheel 41,

a plurality of pressing rollers 12 are disposed in the upper conveyer net 11,

a motor 17 drives the lower drive wheel 37 to rotate, the lower drive wheel 37 cooperates with the idler 36, the lower tension adjustment wheel 38, the lower pressing wheel 46, the fourth idle wheel 40, and the fifth idle wheel 41,

the upper drive wheel 35 cooperates with the third idle wheel 44, the upper tension adjustment wheel 34, the upper drive wheel 35, the upper pressing wheel 45, the first idle wheel 33, and the second idle wheel 39,

a plurality of water spraying pipes 10 are disposed between the upper conveyer net 11 and the lower conveyer net 23, and

a plurality of wind producing devices 13 are disposed between the upper conveyer net 11 and the lower conveyer net 23.