WHAT IS CLAIMED IS:

1. A waste liquid treating device comprising a water tank and an adhesion plate, wherein a waste liquid that contains swarf, the waste liquid being discharged when a workpiece is ground by use of a processing liquid and abrasive grains, is stored in the water tank, the adhesion plate is immersed in the waste liquid stored in the water tank, and the adhesion plate with the swarf adhered thereto is taken out of the water tank to thereby remove the swarf from the waste liquid, the waste liquid treating device further comprising:

a holding section that holds the adhesion plate;

a vertically moving mechanism that moves the holding section vertically; and

a peeling mechanism that peels the water-containing swarf from the adhesion plate held by the holding section,

wherein the peeling mechanism includes

two air nozzles extending in parallel to each other in a horizontal direction with a spacing therebetween and having jet ports formed to face each other,

a valve disposed in a piping providing communication between the two air nozzles and an air

source, and

a control unit that performs control of opening and closing of the valve and control of the vertically moving mechanism that moves the adhesion plate in a vertical direction in the spacing between the two air nozzles, and

the valve is opened when the adhesion plate is raised after the adhesion plate held by the holding section is made to enter the spacing between the parallel two air nozzles, and the swarf adhered to the adhesion plate is peeled off on a non-contact basis by air pressure of air jetted from the jet ports to one surface and another surface of the adhesion plate.

2. A swarf powder recovery device that recovers swarf powder, the swarf powder recovery device comprising:

a waste liquid treating device comprising a peeling mechanism and an adhesion plate, the waste liquid treating device for removing a swarf with high water content from a waste liquid and peeling off the swarf by the peeling mechanism from the adhesion plate; and

a drying mechanism for drying the swarf;

wherein the drying mechanism includes

a conveying belt on which the swarf peeled

off by the peeling mechanism is mounted and which moves the swarf in a horizontal direction,

a recovery box that recovers the swarf powder conveyed by the conveying belt, and

a drying chamber covering an upper portion of the conveying belt and extending in an extending direction of the conveying belt,

the drying chamber includes

a charging port which is disposed on one end side of the conveying belt and through which to charge the swarf, and

an exhaust port disposed on another end side of the conveying belt for exhausting air jetted from two air nozzles of the peeling mechanism and charged into the drying chamber together with the swarf through the charging port, and

air jetted by the two air nozzles flows in the drying chamber in a direction from the charging port toward the exhaust port, to thereby dry the swarf mounted on the conveying belt and containing water, thereby recovering the swarf powder,

wherein,

the waste liquid treating device comprises a water tank and the adhesion plate,

the waste liquid being discharged when a workpiece is ground by use of a processing liquid and abrasive grains, is stored in the water tank,

the adhesion plate is immersed in the waste liquid stored in the water tank, and

the adhesion plate with the swarf adhered thereto is taken out of the water tank to thereby remove the swarf from the waste liquid, the waste liquid treating device further comprising:

a holding section that holds the adhesion plate;

a vertically moving mechanism that moves the holding section vertically; and

the peeling mechanism that peels water-containing swarf from the adhesion plate held by the holding section,

wherein the peeling mechanism includes

the two air nozzles extending in parallel to each other in a horizontal direction with a spacing therebetween and having jet ports formed to face each other,

a valve disposed in a piping providing communication between the two air nozzles and an air

source, and

a control unit that performs control of opening and closing of the valve and control of the vertically moving mechanism that moves the adhesion plate in a vertical direction in the spacing between the two air nozzles, and

the valve is opened when the adhesion plate is raised after the adhesion plate held by the holding section is made to enter the spacing between the parallel two air nozzles, and the swarf adhered to the adhesion plate is peeled off on a non-contact basis by air pressure of air jetted from the jet ports to one surface and another surface of the adhesion plate.

3. The swarf powder recovery device according to claim 2, further comprising:

a return inlet formed between the charging port and the exhaust port for returning a portion of air exhausted through the exhaust port into the drying chamber.

4. The swarf powder recovery device according to claim 3, further comprising:

a blower fan in communication with the exhaust port through an exhaust pipe.

5. The swarf powder recovery device according to

claim 4, further comprising:

a division section that divides flow of exhaust air by the blower fan into two portions, and that is capable of regulating flow rate.

6. The swarf powder recovery device according to claim 5, further comprising:

one end of a piping connected to a discharge port of the blower fan; and

the division section connected to the other end of the piping.

7. The swarf powder recovery device according to claim 2, further comprising:

a plurality of projected portions formed in the drying chamber for creating turbulence in the air flowing through the drying chamber.

8. The waste liquid treating device according to claim 1, wherein the waste liquid treating device is incorporated in a grinding device, or a separate body from the grinding device.