

受験番号 : 32IPM027

問 1

[0001]

The present invention relates to cleaning a bathwater heater using the water pressure of tap water pressure and a cleaning tool.

[0002]

Conventionally, methods for cleaning a bathwater heater have been only methods in which a hot water contact portion in a bathtub is removed and the bathwater heater is cleaned by strongly pouring water into the bathwater heater using a vinyl hose, or the bathwater heater is cleaned with a commercially available carbonated chemical, etc.

[0003] The methods have the following drawbacks.

- (i) Even when water is strongly poured using a vinyl hose, sludge is not completely removed and accumulates immediately.
- (ii) Chemical cleaning is difficult to use.
- (iii) Chemical cleaning is expensive for one use.
- (iv) Water pollution is caused.
- (v) In particular, milky bathwater makes the bathwater heater, and, when reheating is performed while a bath is taken, a rattling sound is made and sludge comes out from a hot water gate, which is very dirty and unsanitary.

The present invention has been made to eliminate these drawbacks.

[0004]

The present invention is directed to a bathwater heater cleaning tool for cleaning a bathwater heater using tap water pressure, which includes a stepped pipe (1) made of resin, a nozzle portion (2), and a cleaning member provided at the tip of the nozzle portion (2) and composed of a sponge (3) for removing dirt

問 2 .

[0016]

FIG. 2 is a plan view illustrating a type-1 jig 2a, shows a jigsaw body 1 in a transparent manner for detailed description, and represents a positional relationship

between a base plate 1a, a circular guide 8, a jigsaw blade 10 of a cutter, and the type-1 jig 2a.

[0017]

The type-1 jig 2a is made of metal and includes fixing metal fittings 3 on a back surface thereof at both ends thereof. A diagonal slider 4 that slides on a half-angle 45-degree line at a right angle portion of a plate material is fixed to the upper surface of the type-1 jig 2a such that whether to fix the diagonal slider 4 by two guide blocks equipped with set screws or make the diagonal slider 4 slidable is selected. The diagonal slider 4 has an end portion 5 with an arrowhead shape, and a rotary bearing 6 to which a connection end of the circular guide 8 dedicated for a jigsaw 1 is rotatably connected is provided in the end portion 5.

[0018]

FIG. 3 is a front view of the type-1 jig, showing that the fixing metal fittings 3 are located on the back surface side of adjacent A side and B side of the right angle portion, to be subjected to quadrant processing, of the plate material so as to hold the plate material, and also showing a connection state of the rotary bearing 6 in the end portion 5 and the circular guide 8.

[0019]

When installing the type 1 jig 2a on the plate material, the arrowhead-shaped end portion 5 of the diagonal slider 4 is slid to be aligned with the apex G of the right angle portion, and then the two screw-type fixing metal fittings 3 on the back surface side of the plate material are fixed to the plate material. As a result, the position of the rotary bearing 6 located in the end portion 5 of the diagonal slider 4 constantly moves on the 45-degree line in a slidable range. Therefore, the distances from the rotary bearing 6 to the A side and the B side are equal to each other regardless of the position of the rotary bearing 6, and quadrant processing with a high degree of completion is achieved by one cutting when, in a state where a side surface of the cutting blade 10 of the jigsaw 1 is aligned with a cutting start position for the A side or the B side and the set screws 7 of the guide blocks for guiding the diagonal slider 4 and a set screw 9 of a guide block for the circular guide are locked, the plate material is cut while the jigsaw 1 is moved to the other side along the turning radius of the circular guide 8.

図 2

45-DEGREE LINE

問 3 .

1. A fertilizer spreader comprising:
 - a body F travelling by itself or by towing;
 - an impeller 4 rotating about a vertical axis;
 - an impeller case C in which the impeller 4 is housed;
 - a hopper H including an agitator 5 rotating about the vertical axis, in an inner space thereof;
 - a rotation shaft 20 for the agitator 5 in the hopper H;
 - a central drive shaft 2 axially mounted to the body F such that an upper end side thereof protrudes into the hopper H;
 - a clutch K freely "engaged" and "disengaged";
 - an outer cylinder shaft 3 fitted to an outer periphery on a lower end side of the central drive shaft 2 to be axially mounted to the body F;
 - an input shaft 1; and
 - conduction mechanisms d1 and d2, wherein
 - the impeller case C and the hopper H are mounted to the body F so as to be stacked on top of each other such that the hopper H is located above the impeller case C,
 - the rotation shaft 20 is conducted to the central drive shaft 2 via the clutch K,
 - the impeller 4 in the impeller case C has a shaft core portion connected to the outer cylinder shaft 3, and
 - the central drive shaft 2 and the outer cylinder shaft 3 are conducted to the input shaft 1 via the conduction mechanisms d1 and d2, respectively, such that the impeller 4 and the agitator 5 are driven so as to rotate at different rotation speeds.