holes 15. Further, the workpiece W is sucked, held, and moved up, and then it is turned to the workpiece loading position. The workpiece W is loaded into the workpiece holding hole 24 of the carrier 23 by the above-mentioned workpiece loading operation.

[0043]

As described above, according to the automatic handling apparatus including the stage having the positioning holes corresponding to the positioning pins of the suction head, the simple configuration of the stage enables holding the workpiece at the position where the center of the workpiece held by the movable section coincides with the center of the workpiece holding hole, and the workpiece can be more easily and accurately loaded.

[0044]

A description will now be given as to an unloading operation of unloading and carrying the workpiece W held in the workpiece holding hole 24 of the carrier 23 after end of machining using the double-side machining apparatus 20.

First, the carrier 23 holding the workpiece W is set in the standby mode at the workpiece loading position like the loading operation. Then the suction ~~hand~~ 2 is introduced to the upper side of this workpiece W by turning the arm 3. At this time, the first air cylinder 7 can be set in the contracted state.

Here, when the first air cylinder 7 is in the contracted state, the suction head 2 is placed on the internal gear 22 side as compared with the loading operation, but it is still placed above the workpiece W. In this state, since the movable section 5 of the suction head 2 is just being pulled by the springs 12,

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