WHAT IS CLAIMED IS:

1. An auxiliary apparatus coupled to a cutting apparatus, the cutting apparatus including a chuck table having a holding surface configured to hold a workpiece, a cutting unit to which a cutting blade configured to cut the workpiece held on the chuck table is fitted by a fixing nut, X-axis feeding means for processing-feeding the chuck table in an X-axis direction, Y-axis feeding means for indexing-feeding the cutting unit in a Y-axis direction orthogonal to the X-axis direction, and Z-axis feeding means for cutting-feeding the cutting unit in a Z-axis direction orthogonal to the X-axis direction and the Y-axis direction, the holding surface being defined by the X-axis direction and the Y-axis direction, the auxiliary apparatus comprising:

a cutting blade storage unit configured to store a plurality of cutting blades;

a loading and unloading unit configured to unload and load a cutting blade from the cutting blade storage unit;

a Y-axis direction positioning unit configured to position the loading and unloading unit at an action position and a retracted position in the Y-axis direction with respect to the cutting blade storage unit;

a Z-axis moving mechanism configured to move the loading and unloading unit in the Z-axis direction; and

an X-axis moving mechanism configured to move the loading and unloading unit in the X-axis direction to make the loading and unloading unit act on the cutting blade fitted to a spindle of the cutting unit, wherein

the loading and unloading unit includes

a Z rotary shaft extending in the Z-axis direction, and

blade holding units radially coupled to the Z rotary shaft and configured to hold under suction a cutting blade.

2. The auxiliary apparatus according to claim 1, wherein

the cutting blade storage unit includes

a driving gear that has a first rotary shaft extending in the Y-axis direction,

a driven gear that is separated from the driving gear in the Z-axis direction and has a second rotary shaft extending in the Y-axis direction,

a caterpillar that is wound around the driving gear and the driven gear, and

supporting shafts that are arranged on the caterpillar at predetermined intervals, are configured to

be inserted into a central opening portion of a cutting blade to support the cutting blade, and extend in the Y-axis direction.

3. The auxiliary apparatus according to claim 2, wherein

an interval in the Z-axis direction between the driving gear and the driven gear is adjustable, and a length of the caterpillar is adjustable.

4. The auxiliary apparatus according to claim 1, wherein

the loading and unloading unit further includes

a fixing nut holding unit configured to screw and unscrew the fixing nut onto and from a male thread formed on a distal end of the spindle, and

two blade holding units are provided for one fixing nut holding unit.

5. The auxiliary apparatus according to claim 4, wherein

the loading and unloading unit is disposed in a frame body, and the frame body is slidably supported by a guide rail that is disposed on a raising and lowering table and that extends in the Y-axis direction, and is positioned at the action position and the retracted position in the Y-axis direction with respect to the

cutting blade storage unit by the Y-axis direction positioning unit.

6. The auxiliary apparatus according to claim 5, wherein

the loading and unloading unit is disposed on a first moving body disposed within the frame body, the first moving body is slidably supported in a suspended state by a first guide rail that is disposed on a lower portion of a second moving body and that extends in the X-axis direction, the second moving body is slidably supported in a suspended state by a second guide rail that is disposed on a ceiling portion of the frame body and that extends in the X-axis direction, and the loading and unloading unit is configured to be advanced freely in the X-axis direction by the first moving body and the second moving body.

7. The auxiliary apparatus according to claim 6, wherein

a bottom portion of the frame body is provided with a dressing board housing portion configured to house a dressing board for dressing a cutting blade, and the first moving body is provided with holding means for holding the dressing board housed in the dressing board housing portion.

8. The auxiliary apparatus according to claim 7, wherein

the bottom portion of the frame body is provided with an end surface correcting jig housing portion configured to house an end surface correcting jig configured to shape a peripheral end surface of a mount flange that is formed at the distal end of the spindle of the cutting unit and that supports a back portion of the cutting blade, and the end surface correcting jig is held by the holding means provided to the first moving body.