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, cutting means 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 means in a Y-axis direction orthogonal to the X-axis direction, and Z-axis feeding means for cutting-feeding the cutting means 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:

cutting blade storage means for storing a plurality of cutting blades;

loading and unloading means for unloading and loading a cutting blade from the cutting blade storage means while holding a front surface of the cutting blade;

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

Z-axis moving means for moving the loading and unloading means in the Z-axis direction;

X-axis moving means for moving the loading and unloading means in the X-axis direction to make the loading and unloading means act on a cutting blade fitted to a spindle of the cutting means; and

cleaning means for cleaning a back surface of the cutting blade held by the loading and unloading means,

wherein

the cleaning means includes an air nozzle configured to clean the back surface of the cutting blade held by the loading and unloading means by blowing air to the back surface of the cutting blade.

2. The auxiliary apparatus according to claim 1, wherein

the air nozzle is disposed so as to be adjacent to the cutting blade storage means.

3. The auxiliary apparatus according to claim 1, wherein

the cutting blade storage means includes a driving gear having a rotary shaft extending in the Y-axis direction, a driven gear separated from the driving gear in the Z-axis direction and having a rotary shaft extending in the Y-axis direction, a caterpillar wound

around the driving gear and the driven gear, and supporting shafts arranged on the caterpillar at predetermined intervals, configured to be inserted into a central opening portion of a cutting blade and support the cutting blade, and extending in the Y-axis direction.

4. The auxiliary apparatus according to claim 1, wherein

the air nozzle is disposed at a back of the supporting shafts of the cutting blade storage means, and moves a cutting blade supported by a supporting shaft to a distal end of the supporting shaft and positions a front surface of the cutting blade toward the loading and unloading means by blowing air to a back portion of the cutting blade.

5. The auxiliary apparatus according to claim 1, wherein

the loading and unloading means includes a Z rotary shaft extending in the Z-axis direction, blade holding units radially coupled to the Z rotary shaft and configured to suction-hold a cutting blade, and 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.

6. The auxiliary apparatus according to claim 5, wherein

the loading and unloading means is disposed in a frame body, and the frame body is slidably supported by a guide rail disposed on a raising and lowering table and extending 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 means by the Y-axis direction positioning means.

7. The auxiliary apparatus according to claim 6, wherein

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