

DESCRIPTION

~~WORKPIECE CUTTING METHOD AND WIRE SAW~~

TECHNICAL FIELD

[0001]

The present invention relates to a method for slicing a workpiece into wafers by using a wire saw and to a wire saw.

BACKGROUND ART

[0002]

There has been conventionally known a wire saw as a means for slicing a workpiece, such as a silicon ingot and a compound semiconductor ingot, into wafers. In a wire saw, a wire row is defined by winding a wire around a plurality of rollers many times, the wire is driven in its axial direction at a high speed, a workpiece is fed toward the wire row to cut the workpiece while a slurry is appropriately supplied, and the workpiece is thereby sliced at the respective wire positions at the same time.

[0003]

Here, FIG. 8 shows an outline of an example of a conventional wire saw.

As shown in FIG. 8, a wire saw 101 is mainly constituted of a wire 102 configured to slice a workpiece, grooved rollers 103 around which the wire 102 is wound, mechanisms 104 and 104' configured to give the wire 102 a tension, a means 105 for feeding the workpiece downwardly, and a means 106 for supplying a slurry at the time of slicing.

[0004]

The wire 102 is reeled out from one wire reel 107 and enters the grooved rollers 103 after passing through a tensile-force-applying mechanism 104 that includes a powder clutch (a constant torque motor) and a dancer roller (a deadweight),

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