WHAT IS CLAIMED IS:

1. A cutting apparatus for cutting a wafer formed with grooving grooves through application of a laser beam along a plurality of division lines which partition a plurality of devices from each other, the cutting apparatus comprising:

a chuck table adapted to hold the wafer thereon;

cutting means including a blade for cutting the wafer held on the chuck table along each of the grooving grooves;

indexing means for indexing the cutting means and the chuck table relative to each other in an indexing direction; and

width measuring means for measuring a width of the grooving groove and a width of a cut groove,

wherein the width measuring means includes an imaging camera for imaging the grooving groove and the cut groove, and illuminating means for illuminating an area to be imaged by the imaging camera,

the illuminating means includes a light quantity switching section by which first light having a first light quantity when the imaging camera images the grooving groove and second light having a second light quantity when the imaging camera images the cut groove are switched over, and

the cutting apparatus further comprises:

a detection unit for detecting a positional deviation of the cut groove from the grooving groove, on the basis of a first image picked up by the imaging camera using the first light and a second image picked up by the imaging camera using the second light; and

a control unit for controlling the indexing means on the basis of the positional deviation detected by the detection unit so as thereby to make a width-directional center of the grooving groove and a width-directional center of the cut groove coincide with each other.