

WHAT IS CLAIMED IS:

1. A processing apparatus for processing a wafer—
~~having a face side including a device zone where a~~
~~plurality of devices are formed in respective areas~~
~~demarcated by a plurality of crossing streets and a~~
~~reverse side including a recess defined therein that~~
~~corresponds to the device zone and an outer~~
~~circumferential ridge on the reverse side that surrounds~~
~~the recess~~, the processing apparatus comprising:

a rotatable holding table having a holder made of a transparent material and holding the face side of the wafer;

a lower image capturing camera that captures~~for capturing~~ an image of the face side of the wafer held on the holding table through the holder;

a cutting mechanism including a first cutting unit having a first cutting blade ~~for cutting the outer circumferential ridge on the reverse side of the wafer to reduce a height of the outer circumferential ridge~~, and a second cutting unit having a second cutting blade ~~for cutting the wafer along the streets on the face side of the wafer whose image has been captured by the lower image capturing camera~~; and

a moving mechanism that moves ~~for moving~~ the

holding table and the cutting mechanism relatively to each other, wherein

the wafer comprises a face side including a device zone where a plurality of devices are formed in respective areas demarcated by a plurality of crossing streets and a reverse side including a recess defined therein that corresponds to the device zone and an outer circumferential ridge on the reverse side that surrounds the recess;

the first cutting blade
is positioned above the outer circumferential ridge on the reverse side of the wafer,
lowered to a first predetermined height,
and

cuts the outer circumferential ridge to reduce a height of the outer circumferential ridge; and

the second cutting blade cuts the wafer along the streets on the face side of the wafer whose image has been captured by the lower image capturing camera.

2. The processing apparatus according to claim 1, further comprising:

an upper image capturing camera ~~for capturing that~~
captures the reverse side of the wafer held on the holding table.

3. A method of processing a wafer, comprising:

a wafer preparing step of preparing a wafer having a face side including a device zone where a plurality of devices are formed in respective areas demarcated by a plurality of crossing streets and a reverse side including a recess defined therein that corresponds to the device zone and an outer circumferential ridge on the reverse side that surrounds the recess;

a protective member placing step of placing a transparent protective member on the face side of the wafer;

a holding step of holding the face side of the wafer on a holding table having a holder made of a transparent material, with the transparent protective member interposed between the holding table and the wafer;

a first cutting step of causing a tip end of a first cutting blade into the outer circumferential ridge of the wafer held on the holding table, to a height short of a bottom surface of the recess to cut the outer circumferential ridge, thereby reducing a height of the outer circumferential ridge;

after the first cutting step, a street detecting step of capturing an image of the face side of the wafer

with a lower image capturing camera disposed below the holding table through the transparent holder and the transparent protective member, thereby detecting one of the streets; and

a second cutting step of cutting the wafer along the street detected in the street detecting step, with a second cutting blade.