WHAT IS CLAIMED IS:

1. A wafer production method of producing a wafer from an ingot having a first surface and a second surface on a side opposite to the first surface, the method comprising:

a separating layer forming step of forming, in the ingot, a separating layer that includes modified portions and cracks propagating from the modified portions, by relatively moving the ingot and a focal point of a laser beam of a wavelength having transmissivity for the ingot, with the focal point positioned at a depth corresponding to a thickness of the wafer to be produced from a side of the first surface;

a wafer separating step of separating the wafer from the ingot by using the separating layer as a separation starting interface;

a tape bonding step of, after the wafer separating step is performed, bonding an adhesive tape to at least one of a separated surface of the wafer and a resulting fresh end surface of the ingot;

a tape separating step of removing separation debris stuck on the at least one surface, by separating the adhesive tape that has been bonded to the at least one surface in the tape bonding step from the at least

one surface; and

a grinding step of, after the tape separating step is performed, grinding the at least one surface from which the separation debris has been removed.

2. A wafer production machine for producing a wafer from an ingot, the wafer production machine comprising:

a laser beam irradiation unit configured to form a separating layer in the ingot by applying a laser beam of a wavelength having transmissivity for the ingot to the ingot with a focal point of the laser beam positioned at a depth corresponding to a thickness of the wafer to be produced from an upper surface of the ingot;

a separating unit configured to separate the wafer from the ingot by using, as a separation starting interface, the separating layer formed by the laser beam irradiation unit;

a separation debris removing unit configured to, after separation by the separating unit and before grinding by a grinding unit, remove separation debris that are present on at least one of a separated surface of the wafer that has been separated from the ingot by the separating unit and a resulting fresh end surface of the ingot, from the at least one surface, by bonding an

adhesive tape to the at least one surface and separating the adhesive tape from the at least one surface with the separation debris stuck on the adhesive tape; and

the grinding unit including grinding stones configured to, after removal of the separation debris by the separation debris removing unit, grind and planarize the at least one surface from which the separation debris has been removed.