

**TITLE OF THE INVENTION: PLASMA PROCESSING APPARATUS AND COIL
HOLDER FOR HOLDING PLASMA EXCITATION ANTENNA**

ABSTRACT

A plasma processing apparatus includes: a processing container; a stage arranged inside the processing container to place a substrate to be processed on the stage; a plasma excitation antenna arranged above the processing container; a coil holder for holding the plasma excitation antenna; and a radio-frequency power supply for supplying radio-frequency power to the plasma excitation antenna. The coil holder includes a plurality of beam-like members arranged radially to protrude outward from a center of the coil holder, and a clamp-like member attached to each of the plurality of beam-like members and suspended downward from each of the plurality of beam-like members. The clamp-like member has an upper end supported by each beam-like member with a screw member and is configured to move in a pendulum manner, and a gripper configured to grip and hold the plasma excitation antenna is formed in a lower end of the clamp-like member.

(Fig. 4)