

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213046 A1 Mouri et al.

Jun. 27, 2024 (43) **Pub. Date:**

(54) SUBSTRATE PROCESSING APPARATUS AND SUBSTRATE PROCESSING METHOD

(71) Applicant: Tokyo Electron Limited, Tokyo (JP)

Inventors: Nobuhiko Mouri, Kumamoto (JP); Takanori Obaru, Kumamoto (JP);

Yasushi Takiguchi, Kumamoto (JP); Teruhiko Kodama, Kumamoto (JP)

Appl. No.: 18/419,867

(22) Filed: Jan. 23, 2024

Related U.S. Application Data

(63) Continuation of application No. 17/467,346, filed on Sep. 6, 2021, now Pat. No. 11,887,869, which is a continuation of application No. 16/214,501, filed on Dec. 10, 2018, now Pat. No. 11,139,182.

(30)Foreign Application Priority Data

Dec. 13,	2017	(JP)	 2017-239072
Oct. 19.	2018	(JP)	 2018-197918

Publication Classification

(51)	Int. Cl.	
, ,	H01L 21/67	(2006.01)
	B08B 1/10	(2006.01)
	B08B 1/32	(2006.01)

B24B 37/10	(2006.01)
B24B 37/30	(2006.01)
H01L 21/304	(2006.01)
H01L 21/677	(2006.01)
H01L 21/687	(2006.01)

(52) U.S. Cl. CPC H01L 21/67046 (2013.01); B08B 1/10 (2024.01); B08B 1/32 (2024.01); B24B 37/107 (2013.01); B24B 37/30 (2013.01); H01L 21/304 (2013.01); H01L 21/67028 (2013.01); H01L 21/67051 (2013.01); H01L 21/67748

(2013.01); H01L 21/68728 (2013.01); H01L

21/68742 (2013.01)

(57)ABSTRACT

A substrate processing method includes: performing a bothsurface cleaning processing in which a first cleaning body, which ejects the fluid to the one surface or is brought into contact with the one surface, and subsequently moves both the first cleaning body and a second cleaning body, which is in contact with the remaining surface of the upper surface and the lower surface of the substrate and rotated around a first vertical axis, horizontally in synchronization with each other toward an outer peripheral portion of the substrate, and performing a side end cleaning processing in which a third cleaning body is rotated around a second vertical axis and brought into contact with the side end of the substrate to clean the side end of the substrate while simultaneously performing the both-surface cleaning processing.

