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**OKADA et al.**(10) **Pub. No.: US 2024/0213044 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **SUBSTRATE PROCESSING DEVICE AND  
SUBSTRATE PROCESSING METHOD**(52) **U.S. Cl.**CPC .. *H01L 21/67046* (2013.01); *H01L 21/67051*  
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(2013.01)(71) Applicant: **SCREEN HOLDINGS CO., LTD.**,  
Kyoto (JP)(72) Inventors: **Yoshifumi OKADA**, Kyoto-shi (JP);  
**Nobuaki OKITA**, Kyoto-shi (JP);  
**Kazuki NAKAMURA**, Kyoto-shi (JP)

(57)

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With an inlet-outlet port opened by a shutter, a substrate is carried into a unit casing. With the substrate carried into the unit casing, a shutter closing operation of changing the shutter from an open state to a close state is performed. In the unit casing, a lower surface of the carried-in substrate is cleaned by a lower-surface brush. Before the substrate is carried in, the lower-surface brush is in a waiting position. Therefore, before the lower-surface of the substrate is cleaned, a brush preparing operation of moving the lower-surface brush from the waiting position to a cleaning position at which the lower-surface brush comes into contact with the substrate is performed. The shutter closing operation and the brush preparing operation are started such that the periods for these operations at least partially overlap with each other.

