



US 20240213069A1

(19) **United States**

(12) **Patent Application Publication**
LEE et al.

(10) **Pub. No.: US 2024/0213069 A1**

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

(54) **TOWER LIFT AND SEMICONDUCTOR
TRANSFER APPARATUS INCLUDING THE
SAME**

(71) Applicants: **SEMES CO., LTD.**, Cheonan-si (KR);
Daekhon International Inc., Seoul
(KR)

(72) Inventors: **Nahyun LEE**, Ansan-si (KR);
Myungjin LEE, Hwaseong-si (KR);
Jongsuk CHOI, Hwaseong-si (KR);
Eunsang YOON, Hwaseong-si (KR);
Seungwhan SUH, Seoul-si (KR);
Junghag CHA, Anyang-si (KR);
Sungjin LIM, Ansan-si (KR); **Jinkwan
HEO**, Gwangmyeong-si (KR)

(73) Assignees: **SEMES CO., LTD.**, Cheonan-si (KR);
Daekhon International Inc., Seoul
(KR)

(21) Appl. No.: **18/528,362**

(22) Filed: **Dec. 4, 2023**

(30) **Foreign Application Priority Data**

Dec. 26, 2022 (KR) 10-2022-0185011

Mar. 9, 2023 (KR) 10-2023-0031086

Publication Classification

(51) **Int. Cl.**

H01L 21/677 (2006.01)

B65G 49/06 (2006.01)

(52) **U.S. Cl.**

CPC **H01L 21/67709** (2013.01); **B65G 49/061**
(2013.01); **H01L 21/6773** (2013.01); **B65G**
2201/0297 (2013.01)

(57)

ABSTRACT

Provided is a tower lift including a frame extending in a vertical direction, a carriage configured to move along the frame, a first coil arranged on a first surface of the frame, the first surface facing the carriage, a second coil arranged on the first surface of the frame and separated from the first coil, a first magnet connected to the carriage and located between the first coil and the second coil, and a second magnet connected to the carriage, located between the first magnet and the second coil, and separated from the first magnet.

