



US 20240215168A1

(19) **United States**

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

(10) **Pub. No.: US 2024/0215168 A1**

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

(54) **INSPECTION ROBOTS WITH A PAYLOAD
ENGAGEMENT DEVICE**

(71) Applicant: **Gecko Robotics, Inc.**, Pittsburgh, PA
(US)

(72) Inventors: **Dillon R. Jourde**, Pittsburgh, PA (US);
Kevin Y. Low, Pittsburgh, PA (US);
Ignacio J. Cordova, Pittsburgh, PA
(US)

(21) Appl. No.: **18/601,667**

(22) Filed: **Mar. 11, 2024**

Related U.S. Application Data

(60) Division of application No. 17/740,475, filed on May
10, 2022, which is a continuation of application No.
17/716,249, filed on Apr. 8, 2022, now Pat. No.
11,865,698.

(60) Provisional application No. 63/177,141, filed on Apr.
20, 2021, provisional application No. 63/255,880,
filed on Oct. 14, 2021.

Publication Classification

(51) **Int. Cl.**
H05K 1/18 (2006.01)
B25J 5/00 (2006.01)
B25J 9/00 (2006.01)
B25J 9/16 (2006.01)
B25J 13/00 (2006.01)
B25J 13/08 (2006.01)
B25J 19/02 (2006.01)
B60B 19/00 (2006.01)
B60B 19/12 (2006.01)
B60K 1/02 (2006.01)
B62D 53/02 (2006.01)

B62D 57/024 (2006.01)
G01N 29/04 (2006.01)
G01N 29/22 (2006.01)
G01N 29/265 (2006.01)
G06F 1/20 (2006.01)

(52) **U.S. Cl.**
CPC **H05K 1/18** (2013.01); **B25J 5/007**
(2013.01); **B25J 9/0009** (2013.01); **B25J**
9/1617 (2013.01); **B25J 9/163** (2013.01);
B25J 9/1653 (2013.01); **B25J 9/1664**
(2013.01); **B25J 9/1674** (2013.01); **B25J**
9/1694 (2013.01); **B25J 13/006** (2013.01);
B25J 13/087 (2013.01); **B25J 19/021**
(2013.01); **B25J 19/027** (2013.01); **B60B**
19/006 (2013.01); **B60B 19/12** (2013.01);
B60K 1/02 (2013.01); **B62D 53/02** (2013.01);
B62D 57/024 (2013.01); **G01N 29/04**
(2013.01); **G01N 29/226** (2013.01); **G01N**
29/265 (2013.01); **G06F 1/206** (2013.01);
B60B 2360/102 (2013.01); **B60B 2360/104**
(2013.01); **B60B 2360/109** (2013.01); **B60B**
2900/931 (2013.01); **G01N 2291/0289**
(2013.01); **G01N 2291/2698** (2013.01); **G06F**
2200/201 (2013.01); **H05K 2201/10151**
(2013.01)

(57) **ABSTRACT**

Inspection robots with a payload engagement device are described. An example inspection robot may have a housing, a drive module, having at least one wheel and a motor, where the drive module is operatively coupled to the housing. The example inspection robot may also have a payload coupled to the drive module, where the payload includes a sensor mounted to the payload, and a payload engagement device operationally coupled to the drive module and the payload, where the payload engagement device applies a selected downward force on the payload.

