

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0214528 A1 Allen et al.

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

(54) OBJECT INSPECTION SYSTEM AND METHOD FOR INSPECTING AN OBJECT

(71) Applicant: Inovision Software Solutions, Inc., Chesterfield, MI (US)

(72) Inventors: Jacob Nathaniel Allen, Shelby Township, MI (US); Zhipeng Liang, Sterling Heights, MI (US); Brandon David See, West Bloomfield, MI (US); Frank Damacio Luna, Henderson, NV (US)

(21) Appl. No.: 18/431,075

(22) Filed: Feb. 2, 2024

Related U.S. Application Data

- (63) Continuation of application No. 17/696,268, filed on Mar. 16, 2022, now Pat. No. 11,937,020, which is a continuation of application No. 16/866,110, filed on May 4, 2020, now Pat. No. 11,310,467, which is a continuation of application No. 15/932,865, filed on May 9, 2018, now abandoned.
- (60) Provisional application No. 62/511,404, filed on May 26, 2017, provisional application No. 62/504,534, filed on May 11, 2017, provisional application No. 62/504,538, filed on May 11, 2017.

Publication Classification

| (51) | Int. Cl. | |
|------|------------|-----------|
| , , | H04N 7/18 | (2006.01) |
| | G01N 21/88 | (2006.01) |
| | G01N 21/89 | (2006.01) |
| | G06T 7/00 | (2006.01) |
| | G06T 7/73 | (2006.01) |
| | H04N 17/00 | (2006.01) |
| | H04N 23/56 | (2006.01) |
| | H04N 23/90 | (2006.01) |

(52) U.S. Cl.

CPC H04N 7/181 (2013.01); G01N 21/8851 (2013.01); G01N 21/89 (2013.01); G06T 7/0004 (2013.01); G06T 7/0008 (2013.01); G06T 7/001 (2013.01); G06T 7/73 (2017.01); H04N 7/188 (2013.01); H04N 17/002 (2013.01); H04N 23/56 (2023.01); H04N 23/90 (2023.01); G06T 2207/10152 (2013.01); G06T 2207/30156 (2013.01)

(57)ABSTRACT

An object inspection system and a method for detecting defects which utilizes a plurality of cameras and lights to capture images of a portion of an object and which uses the captured images to determine the presence of a defect upon a surface, such as surface, of the object and which may communicated the location of the identified defect to an automated defect repair assembly.

