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(54) **METHODS AND APPARATUS FOR USING ROBOTICS TO ASSEMBLE/DE-ASSEMBLE COMPONENTS AND PERFORM SOCKET INSPECTION IN SERVER BOARD MANUFACTURING**

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(57) **ABSTRACT**

The disclosure is directed to apparatus and methods for manufacturing including a collaborative robot, a camera operatively coupled to the collaborative robot, a memory coupled to the collaborative robot, and processing circuitry coupled to the memory, the processing circuitry configured to receive image data of at least one component intended for a printed circuit board (PCB), the image data collected by the camera operatively coupled to the collaborative robot, determine, based on the image data, a coordinate location for the component, and secure the component to the PCB using an end effector of the collaborative robot based on the received image data. In one embodiment, the collaborative robot is configured to operate alongside a human, the collaborative robot in combination with the camera configured to manufacture a computer system with the PCB.