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(54) **MOBILE APPARATUS WITH COMPUTER VISION ELEMENTS FOR PRODUCT IDENTIFIER DETECTION WITH MINIMAL DETECTION ADJUSTMENTS**

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(57) **ABSTRACT**

Disclosed are systems and techniques for identifying product identifiers in images. A technique can include receiving, by an edge computing device, x and y coordinates for a location of an out of stock shelf section, determining a frame of reference (FOR) based on the coordinates, the FOR including a location of a product identifier for the out of stock shelf section, determining incremental adjustments to a camera based on the FOR, instructing the camera to adjust by the incremental adjustments and capture an image of the location of the product identifier, performing image analysis on the image to identify the product identifier, determining second incremental adjustments to the camera to focus the camera on the location of the product identifier if the product identifier is not identifiable in the image, and instructing the camera to reset to original camera settings if the product identifier is identifiable in the image.