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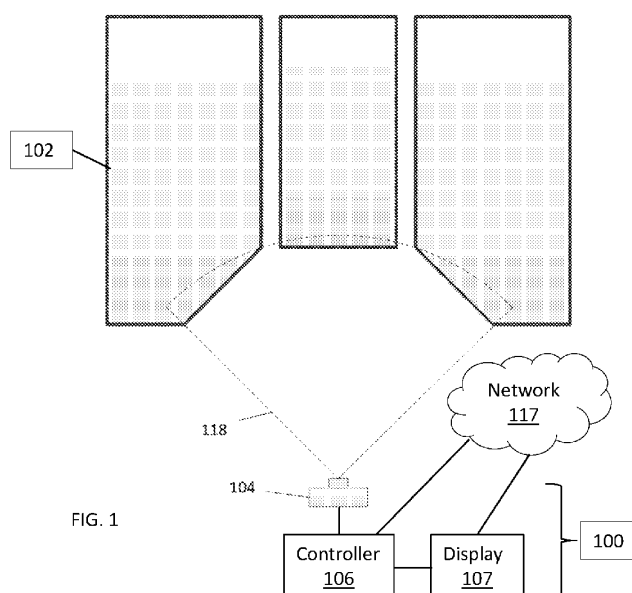
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(54) **Title:** LIQUID LEVEL DETERMINATION



(57) **Abstract:** Disclosed herein are a system and method for determining a liquid level in a container based on data extracted from a digital image of the container. An image capture apparatus captures an image of a container used to store liquid reagents used by analytical instruments to test patient samples. A controller receives the captured image and extracts an analysis region based on a container type and applies a gradient filter to the analysis region. A location of a minimum gradient value (i.e., a row index) is determined based on the air-to-liquid boundary of the liquid in the extracted analysis region. A volume module calculates the liquid level in the analysis region by dividing the row index by a length of a gradient column vector and compares the determined liquid level to a threshold analysis region fraction for the container type to determine whether to output an alert.

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