



(54) **METHOD FOR COUNTERFEIT CURRENCY DETECTION USING ORTHOGONAL LINE COMPARISON**

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(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

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(58) **Field of Search** 382/135, 137, 382/199, 209, 217, 219, 266, 276, 289, 291

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(57) **ABSTRACT**

An anti-counterfeit currency detection method is disclosed wherein local edge information is utilized for accurately detecting lines and curves of legitimate notes. The method can more accurately determine the location and orientation of a pattern and thus provides more reliable currency detection. A detector is trained off-line with example notes resulting in a stored template generated by recording a test pattern similar to a pattern to be tested; anchor lines are identified within said template which are further represented in subsequent test patterns. The template is rotated and shifted before matching it to the test pattern so that anchor lines align with long lines detected within the test pattern. The template and test pattern are then compared to determine whether there is a match. The system comprises a microprocessor is programmed to facilitate the training of a detector off-line with example notes which are scanned into said system wherein a template is generated by recording an image pattern of said example notes similar to a test pattern to be detected. The microprocessor identifies anchor lines within the template which are further represented in said test pattern; rotates and shifts the template before matching it to the test pattern so that anchor lines align with lines which may be detected within said test pattern; and compares the template to the test pattern to determine whether said anchor lines exist within said test pattern.

10 Claims, 2 Drawing Sheets

