



(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0100204 A1**

Afzal et al.

(43) **Pub. Date: May 12, 2005**

(54) **METHOD AND APPARATUS FOR
DETECTING FLUORESCENT PARTICLES
CONTAINED IN A SUBSTRATE**

(22) Filed: **Nov. 6, 2003**

Publication Classification

(75) Inventors: **Robert S. Afzal**, Providence, RI (US);
Christopher A. Schera, East
Providence, RI (US); **Don Oliver**,
Wrentham, MA (US)

(51) **Int. Cl.⁷** **G06K 9/00**; G06K 9/46
(52) **U.S. Cl.** **382/135**; 382/165; 382/190

(57) **ABSTRACT**

Correspondence Address:

**HARRINGTON & SMITH, LLP
4 RESEARCH DRIVE
SHELTON, CT 06484-6212 (US)**

Disclosed herein are methods and apparatus for authentication of various substrates, including paper based substrates such as currency. Techniques are disclosed for use of security features to generate security codes. The security codes are deciphered with apparatus including a color recognition sub-system that provides for verification of authenticity of the substrate containing the security features.

(73) Assignee: **Spectra Systems Corporation**

(21) Appl. No.: **10/703,043**

1275 ↘

