

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL P. O'REILLY and ROBERT W. BOYD

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Appeal No. 2004-0227  
Application 09/140,151

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ON BRIEF

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Before OWENS, WALTZ and LIEBERMAN, *Administrative Patent Judges*.  
OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This appeal is from the final rejection of claims 1, 3, 5-11 and 13-18, which are all of the claims pending in the application.

*THE INVENTION*

The appellants claim a system and a method for providing a substrate with security information. Claim 11, directed toward the system, is illustrative:

11. A system for providing a substrate with a security identification comprising:

a security signature comprised of a random distribution of dielectric components affixed with said substrate, said dielectric components having a dielectric constant sufficiently larger than that of said substrate as to exhibit molecular level electric dipole moments, that cause a detectable modification of an external electric field passing through said substrate in accordance with said distribution; and

a security signature detector configured to couple an electric field with said substrate, and being operative to measure a modification of said electric field by said random distribution of dielectric components, and to store information representative of said modification.

*THE REFERENCES*

Brosow et al. (Brosow)	4,218,674	Aug. 19, 1980
Stockburger et al. (Stockburger)	4,816,657	Mar. 28, 1989
Matsumoto et al. (Matsumoto)	4,970,495	Nov. 13, 1990
Hasegawa et al. (Hasegawa)	6,072,394	Jun. 6, 2000 (filed Feb. 29, 1996)
Verschuur et al. (Verschuur)	6,168,080	Jan. 2, 2001 (filed Apr. 14, 1998)

*THE REJECTIONS*

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 1, 3, 5, 6, 8-11, 13, 14 and 16-18 over Verschuur in combination with Brosow and/or Stockburger, and claims 7 and 15

over Verschuur in combination with Brosow and/or Stockburger and further in combination with Matsumoto or Hasegawa.

*OPINION*

We reverse the aforementioned rejections. We need to address only the independent claims, i.e., claims 1, 11 and 18.<sup>1</sup>

Each of the appellants' independent claims requires a random distribution of dielectric components affixed with a substrate.

Verschuur discloses a system and method for "accessing information from the contents of sealed envelopes or other layered structures by making use of localized capacitance changes introduced into a substrate, such as a paper insert inside the envelope, by conductive or dielectric ink used to print encoded information such as a bar-code" (col. 2, lines 53-58).

"Variations in capacitance associated with the pattern of the conductive ink are detected as a function of the relative position of the capacitance sensor along the covered substrate and are compared to stored information about similar patterns for reading the encoded information" (col. 3, lines 1-5). "While the information encoded in the envelopes' contents **83** is preferably a

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<sup>1</sup> The examiner does not rely upon Matsumoto or Hasegawa for any disclosure that remedies the deficiency in Verschuur, Brosow and Stockburger as to the independent claims.

conventional bar-code, other conventional symbols interpretable in alphanumeric characters could also be used to support the further processing of the envelopes **10**. Unique self-defined symbols could also be used" (col. 8, lines 28-31). "A variety of further processing can take place based on the information acquired from contents **83** of the envelopes **10**. For example, the envelopes **10** can be sorted according to their contents **83**, orders or replies can be generated, records can be updated, or the information can be verified" (col. 8, lines 8-12).

Brosow discloses a system and method for verifying the authenticity of an object having random imperfections therein or thereon which are capable of being detected (col. 2, lines 46-50). "The random information serving as an identification code is typical, just like a person's finger-prints. They have in common that causal factors are used as an identification code, which cannot artificially be imitated because they have been formed accidentally. However, they can easily be checked" (col. 6, lines 52-57). The random imperfections can be added into or onto the object during its manufacture, and can be particles which have electric or magnetic properties deviating from those of the object (col. 4, lines 34-37 and 52-61; col. 5, lines 2-10). The amount of random imperfections is detected and

converted into pulses, the detected pulses are coordinated with time pulses, the time pulses are converted to binary code, and the binary code is compared with binary code previously ascertained by these steps and stored (col. 2, lines 51-61). "If just one of the tiny particles randomly present, is broken off or is multiplied or slightly displaced, the random information serving for identification purposes is changed and the document can be identified as having been forged" (col. 5, line 66 - col. 6, line 3).

Stockburger discloses a system and a method for characterizing and identifying falsification-proof data supports, such as value or identity cards, in which physical characterizing features of the data support are measured and converted into characterizing data which are recorded on the data support (col. 1, lines 11-19). "[T]he data support is provided, at least in the zone of a reading track, with an automatically readable surface pattern the lines, areas or dots of which differ from one data support to another by their width and/or density and/or respective associations. The surface pattern is detected at selected positions along a path of limited length or in punctual manner, and at least some selected reading or detecting results are used as the physical characterizing features of the data

support" (col. 2, lines 40-49). The surface pattern may be a pattern of dielectric or magnetic lines (col. 3, lines 45-47).

The examiner argues that "Verschuur differs from the claims by not specifically describing storing of the measured information" (answer, page 3). Instead, to read encoded information Verschuur compares variations in capacitance associated with ink patterns to stored information about similar patterns (col. 3, lines 1-5).

Verschuur also differs from the appellants' claimed invention by not being directed toward providing security information. Although, as argued by the examiner (answer, page 6), Verschuur states that information on the contents of the envelopes can be verified, this statement in the context of the contents being orders, replies or records (col. 8, lines 10-12). Verschuur does not indicate that the information can be security information.

The examiner argues that it would have been obvious to one of ordinary skill in the art to include a random distribution of dielectric components in the contents of Verschuur's envelopes and to compare measured changes in an electric field to previously stored information to provide security against forgery (answer, pages 4-5).

As pointed out by the examiner (answer, page 3), Verschuur does not store the measured variations in capacitance and compare later-measured information to the stored information. Instead, Verschuur compares measured information to previously-stored information about similar patterns. This indicates that Verschuur's statement that "the information can be verified" (col. 8, line 12) does not pertain to security information which, it reasonably appears, would require comparison not merely with similar information but, rather, with the information exactly as it should be. The examiner has not provided evidence or technical reasoning which shows that Verschuur's comparison with similar patterns is applicable to security information.

Thus, to arrive at the appellants' claimed invention, one of ordinary skill in the art would have had to modify Verschuur's system and method, in view of Brosow and Stockburger, such that dielectric particles are formed on the contents of Verschuur's envelope in a random distribution in addition to the pattern of Verschuur's bar-code or conventional or self-defined symbols, capacitance variation information about that random distribution is measured and stored, in addition to Verschuur's information on similar patterns being stored, the same random distribution, in addition to Verschuur's pattern other than the similar pattern,

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is measured through the envelope as to its capacitance variation information, and the measured information is compared to the stored random distribution rather than being compared to Verschuur's information on similar patterns.

The examiner has not adequately explained how Verschuur, Brosow and Stockburger themselves would have fairly suggested, to one of ordinary skill in the art, making these modifications to Verschuur. Hence, the record indicates that the examiner used impermissible hindsight when rejecting the claims. See *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *In re Rothermel*, 276 F.2d 393, 396, 125 USPQ 328, 331 (CCPA 1960). Accordingly, we reverse the examiner's rejections.

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*DECISION*

The rejections under 35 U.S.C. § 103 of claims 1, 3, 5, 6, 8-11, 13, 14 and 16-18 over Verschuur in combination with Brosow and/or Stockburger, and claims 7 and 15 over Verschuur in combination with Brosow and/or Stockburger and further in combination with Matsumoto or Hasegawa, are reversed.

*REVERSED*

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TERRY J. OWENS	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
THOMAS A. WALTZ	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
PAUL LIEBERMAN	)	
Administrative Patent Judge	)	

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