

EXHIBIT 16



US007161738B2

(12) **United States Patent**
Disano et al.

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(45) **Date of Patent:** **Jan. 9, 2007**

(54) **SECURE DOCUMENT OF VALUE AND METHOD OF MANUFACTURING SAME**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 110 days.

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(51) **Int. Cl.**
G02B 1/10 (2006.01)

(52) **U.S. Cl.** **359/585**; 359/586; 283/91; 283/72

(58) **Field of Classification Search** 359/586, 359/580, 582, 584, 585, 589; 283/91, 72, 283/107, 109, 114, 117, 901, 902
See application file for complete search history.

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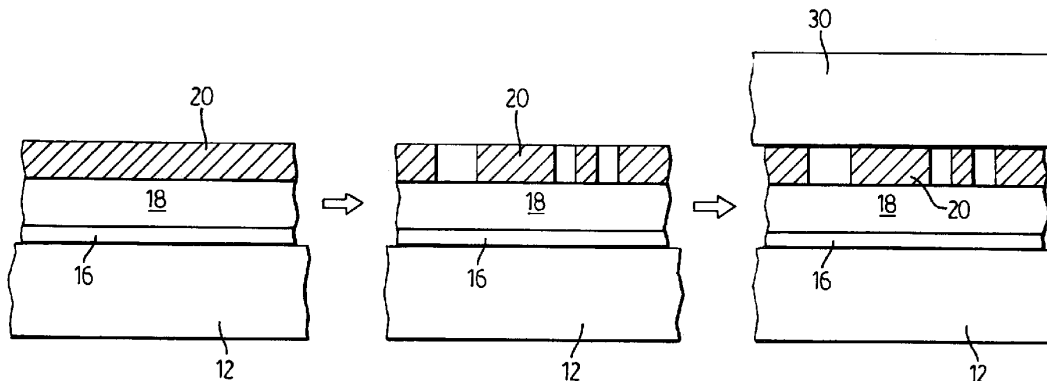
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(57) **ABSTRACT**

A secure document value includes a sheet-like substrate and a thin film, optically variable security device on the substrate. The security device includes a carrier and a multilayer coating on the carrier. The multilayer coating includes a dielectric-metal stack having an exposed reflective layer that is tailored after manufacture to include security data proprietary to the issuer of the document of value thereby to deter forgery. Since the security device is tailored after manufacture, the end supplier of the document of value does not need to provide the proprietary information to the manufacturer of the security device for incorporation therein. This also enables the manufacturer of the security device to stockpile material until such time the material must be customized to include proprietary data. This results in shorter lead times and better response to market demands.

27 Claims, 3 Drawing Sheets



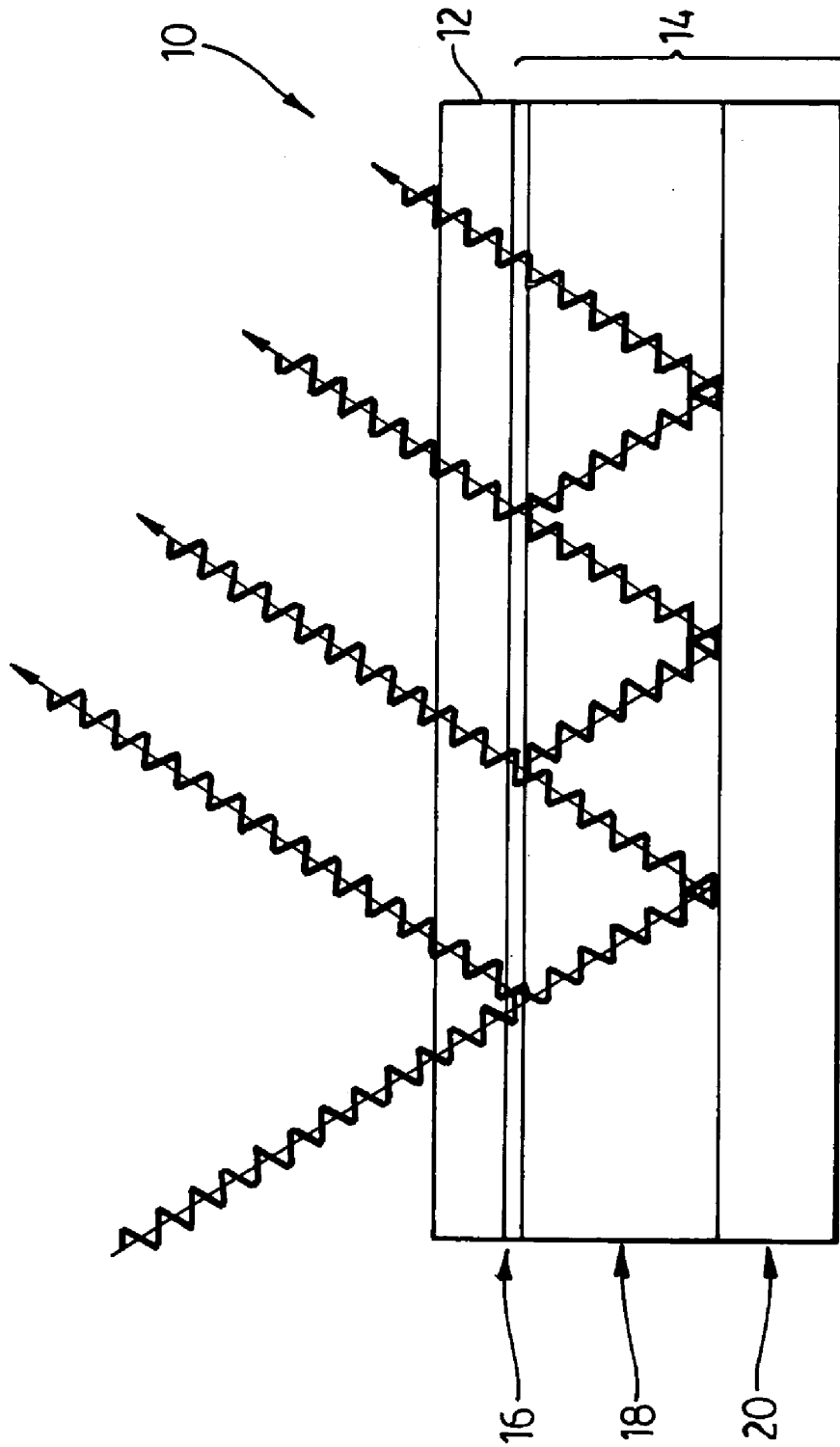
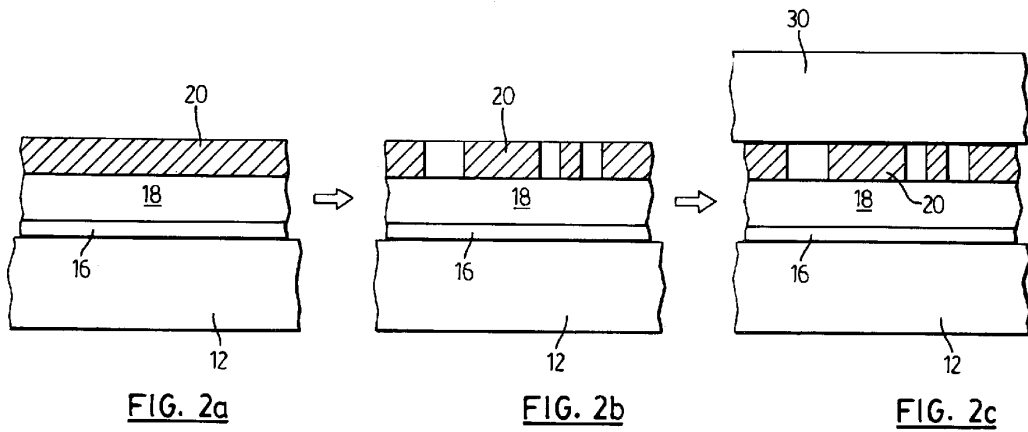


FIG. 1



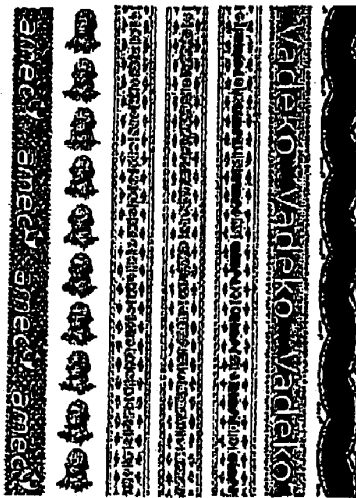


FIG. 3

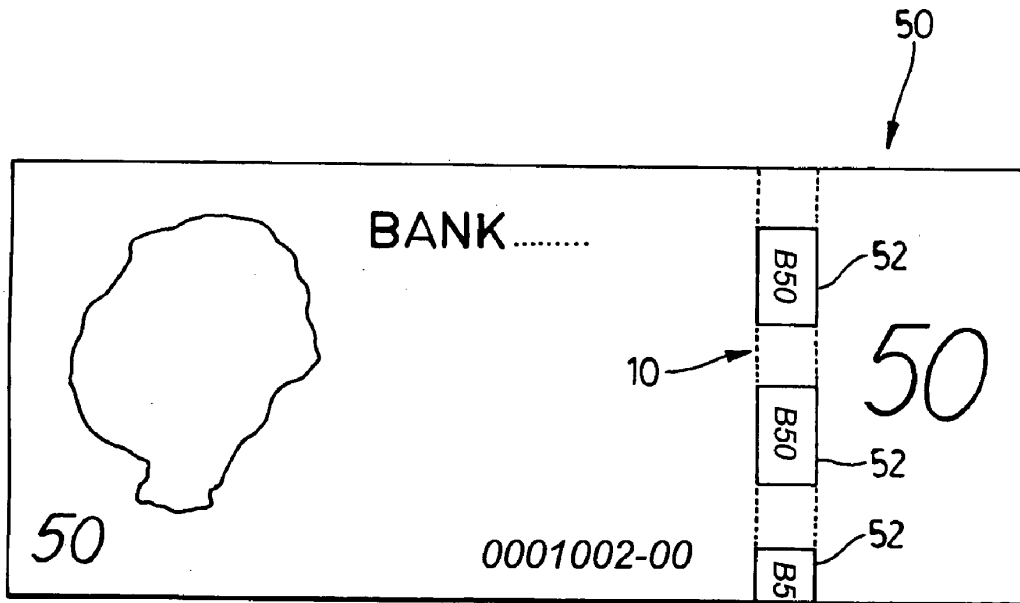


FIG. 4

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