Title (en)
SECURITY LABEL (VERSIONS), METHOD OF FORMING A SECURITY LABEL AND METHOD OF PRODUCT AUTHENTICATION (VERSIONS)

Title (de)
SICHERHEITSETIKETT (VARIANTEN), VERFAHREN ZUR HERSTELLUNG EINES SICHERUNGSETIKETTES UND VERFAHREN ZUR PRODUKTAUTHENTIFIZIERUNG (VARIANTEN)

Title (fr)
ÉTIQUETTE DE SÉCURITÉ (VERSIONS), PROCÉDÉ PERMETTANT DE FORMER UNE ÉTIQUETTE DE SÉCURITÉ ET PROCÉDÉ D'AUTHENTIFICATION DE PRODUIT (VERSIONS)

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Application
EP 11723630 A 20110421

Priority
IB 2011000922 W 20110421

Abstract (en)
[origin: WO2012143746A1] This invention relates to validation of security papers, documents, banknotes, artworks and brand products. The technical results of the invention are the implementation of the cost-effective and mass-producible security labels with the hidden polarized mono- or multi- color images without any visible outlines of such polarized images, the method of forming said labels, as well as the method of the product authenticity verification with the assistance of the security labels claimed. The claimed security label comprises a sequentially disposed metallic reflective layer and an optically anisotropic transparent substrate, as well as an element able to change optical properties of the said substrate in order to form a hidden polarized image. The element changing the optical properties of the substrate is made in the form of mask that covers a face side of the substrate by the same metallic material that is used for the reflective layer on a reverse side of the substrate. In the second version the claimed security label comprises at least two transparent superposed optically anisotropic substrates, each mask is performed using a solid fill printing method with blank spaces made in accordance with the hidden image graphics. These blank spaces are made in such way that they may coincide or may not coincide for adjacent optically anisotropic transparent substrates, and for each section of such optically anisotropic transparent substrates with the blank spaces in their masks laying under the blank space of the top substrate mask the total optical thickness, Formula (I), where d_i thickness of optically anisotropic i th substrate; i - from 1 to N depending on the number of the transparent substrates mentioned above; n_{ei} - the index of refraction for the extraordinary light beam in the i th substrate; n_{oi} - the index of refraction for the ordinary light beam in the i th substrate, has been selected to ensure that for the light passing through a polarizer to the security label the transmittance T of the correspondent section has a maximum on the preset wave length ?, where ? is the light wavelength in a vacuum.

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B42D 15/10

IPC 8 full level
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