

Title (en)  
MULTILAYERED SECURITY ELEMENT WITH VARIABLE OPTICAL EFFECT AND A COUNTERFEIT-PROOF DOCUMENT

Title (de)  
MEHRSCHICHTIGES SICHERHEITSELEMENT MIT VERÄNDERLICHEM OPTISCHEM EFFEKT UND FÄLSCHUNGSSICHERES DOKUMENT

Title (fr)  
ÉLÉMENT DE PROTECTION MULTICOUCHE POSSÉDANT UN EFFET OPTIQUE ALTERNANT, ET DOCUMENT PROTÉGÉ CONTRE LES CONTREFAÇONS

Publication  
**EP 2600332 B1 20150610 (EN)**

Application  
**EP 10855407 A 20101206**

Priority  
• RU 2010131795 A 20100729  
• RU 2010000732 W 20101206

Abstract (en)  
[origin: EP2600332A1] The invention relates to counterfeit-proof documents with multilayered security markings. A multilayered security element comprises a flexible base layer with optically variable structures containing two or more groups of repeating images which move and/or changing as the viewing angle varies. The optically variable structures are formed so that when the viewing angle varies different groups of images move relative to each other. The invention makes it possible to enhance the security of documents owing to a novel optical effect which renders the protected item more readily identifiable and is based on observation of relative movement of images as the viewing angle varies.

IPC 8 full level  
**B42D 15/00** (2006.01); **D21H 21/40** (2006.01); **D21H 21/42** (2006.01); **D21H 21/44** (2006.01); **G07D 7/00** (2006.01); **G07D 7/12** (2006.01); **G09F 3/00** (2006.01)

CPC (source: EP US)  
**B42D 25/328** (2014.10 - EP US); **B42D 25/355** (2014.10 - EP US); **B42D 25/425** (2014.10 - EP); **B42D 25/45** (2014.10 - EP US); **D21H 21/40** (2013.01 - EP); **D21H 21/42** (2013.01 - EP); **D21H 21/44** (2013.01 - EP); **G07D 7/003** (2017.04 - EP); **G07D 7/12** (2013.01 - EP); **G09F 3/0292** (2013.01 - EP); **B42D 25/21** (2014.10 - US); **B42D 25/324** (2014.10 - EP); **B42D 2033/24** (2022.01 - EP); **B42D 2035/50** (2022.01 - EP)

Citation (opposition)  
Opponent : Giesecke & Devrient GmbH,  
• EP 2546070 A1 20130116 - HOLOGRAPHY CT COMP [RU]  
• WO 2005106601 A2 20051110 - RUE DE INT LTD [GB], et al  
• US 2004196516 A1 20041007 - PETERSEN JOEL M [US], et al  
• US 2005180020 A1 20050818 - STEENBLIK RICHARD A [US], et al  
• WO 2007063137 A2 20070607 - OPTAGLIO SRO [CZ], et al  
• WO 2004048119 A1 20040610 - OVD KINEGRAM AG [CH], et al  
• WO 2004049250 A1 20040610 - OVD KINEGRAM AG [CH], et al  
• WO 03107042 A2 20031224 - KIMBERLY CLARK CO [US]  
• US 2005095407 A1 20050505 - COBURN JOSEPH W JR [US]  
• US 7433105 B2 20081007 - MAU CHRISTINE MARIE [US], et al  
• WO 2006013215 A1 20060209 - OPTAGLIO SRO [CZ], et al  
• WO 9209444 A1 19920611 - DE LA RUE THOMAS & CO LTD [GB]  
• WO 9427254 A1 19941124 - DE LA RUE HOLOGRAPHICS LTD [GB], et al  
Opponent : de la rue international Limited  
WO 2005106601 A2 20051110 - RUE DE INT LTD [GB], et al

Cited by  
US10207531B2; WO2018206147A1; US10744812B2; EP2885135B1; EP2782765B1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2600332 A1 20130605**; **EP 2600332 A4 20130821**; **EP 2600332 B1 20150610**; CN 103119638 A 20130522; CN 103119638 B 20160622; RU 2430836 C1 20111010; WO 2012015330 A1 20120202

DOCDB simple family (application)  
**EP 10855407 A 20101206**; CN 201080068352 A 20101206; RU 2010000732 W 20101206; RU 2010131795 A 20100729