

Search history

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Search 3: 2 and (security near document) (Results 149)
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Search 7: 6 and laser (Results 11)

Title: MULTILAYER BODY

Abstract: The invention relates to a multilayer body (2) comprising a transparent first layer (13). In the transparent first layer (13), a multiplicity of microlens (21) arranged in accordance with a microlens grid are impressed in a first region (31). Furthermore, the multilayer body (2) comprises a second layer (12), which is arranged below the first layer (13) and in a fixed position with respect to the first layer (13) and has a multiplicity of microimages (22) arranged in accordance with a microimage grid and in each case in an at least regional overlap with one of the microlenses (21) of the microlens grid for the purpose of generating a first optically variable information item. The grid pitches (41, 42) of the microimage grid and of the microlens grid in each case in at least one spatial direction are less than 300 micro m.

Classifications:

International (IPC 8-9): B42D15/00 B42D15/10 B42D25/21 B42D25/29 B42D25/30 B42D25/324 B42D25/342 B42D25/351 B42D25/373 B42D25/45 B44F1/12 B44F5/00 G02B27/12 G02B27/22 G02B27/60 G02B3/00 G02B3/02 G02B3/06 G07D7/00 (Advanced/Invention); B42D25/328 (Advanced/Non-invention); B42D15/10 B44F1/12 G02B3/00 (Core/Non-invention)

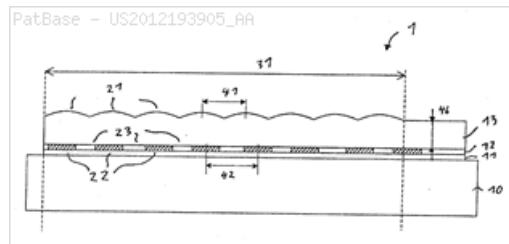
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European: B42D15/00C G02B3/00A3L G02B3/00A3S L42D31/20 L42D33/04 L42D33/10 L42D33/14 L42D33/18 L42D35/22 L42D35/28 L42D35/44

US: 283/74 283/74P 359/619 359/619S

JP F-Term: 2C005 2C005/HA02 2C005/HB01 2C005/JB08 2C005/JB09 2C005/JB28 2C005/KA01 2C005/KA06 2C005/KA37 2C005/KA48 2C005/KA51 2K010

JP F-Index: B42D15/10/220 B42D15/10/300 B42D15/10/342 B42D15/10/346 B42D15/10/501/G B42D15/10/501/P B42D25/22 B42D25/30 B42D25/342 B42D25/346 G02B3/00/A G02B3/02 G02B3/06

**Family:**

Publication number	Publication date	Application number	Application date
AU2010294467 AA	20110317	AU20100294467	20100909
AU2010294467 BB	20140904	AU20100294467	20100909
AU2010294467 CA	20170309	AU20100294467	20100909
AU2014253473 AA	20141113	AU20140253473	20141021
AU2014253473 BB	20170202	AU20140253473	20141021
CA2772149 AA	20120224	CA20102772149	20100909
CA2772149 C	20170905	CA20102772149	20100909
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CN102497995 B	20150909	CN201080040873	20100909
DE102009040975 A1	20110324	DE200910040975	20090911
EP2475529 A2	20120718	EP20100757030	20100909
JP2013504451 A2	20130207	JP20120528274	20100909
JP2013504451 T2	20130207	JP20120528274T	20100909
JP5700580 B2	20150415	JP20120528274T	20100909
MX2012002897 A1	20120402	MX20120002897	20100909
RU2012114125 A	20131020	RU20120114125	20100909
RU2549069 C2	20150420	RU20120114125	20100909
TW201109193 A	20110316	TW20100130573	20100910
TWI535579 B	20160601	TW20100130573	20100910
US2012193905 AA	20120802	US20100395251	20100909
US2018264869 AA	20180920	US20180977621	20180511
US9994062 BB	20180612	US20100395251	20100909
WO11029602 A2	20110317	WO2010EP05552	20100909
WO11029602 A3	20110505	WO2010EP05552	20100909

Priority:

DE200910040975 20090911 AU20100294467 20100909 US20100395251 20100909
WO2010EP05552 20100909 US20120395251 20120418 AU20140253473 20141021
US20180977621 20180511

Probable Assignee: OVD KINEGRAM AG**Assignee(s):** (std): HANSEN ACHIM ; OVD KINEGRAM AG ; SCHILLING ANDREAS ; TOMPKIN WAYNE ROBERT**Inventor(s):** (std): SHILLING ANDREAS ; KHANSEN AKHIM ; TOMPKIN UEHJN ROBERT ; ROBERT TOMPKIN WAYNE ; ANDREAS SCHILLING ; ACHIM HANSEN ; SCHILLING ANDREAS ; TOMPKIN WAYNE ROBERT ; HANSEN ACHIM**Inventor(s):** WAYNE ROBERT TOMPKIN**Agent(s):** FISHER ADAMS KELLY; FISHER ADAMS KELLY PTY LTD; SPRUSON AND FERGUSON; FISHER ADAMS KELLY CALLINANS; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; ZINSINGER NORBERT; HOFFMANN AND BARON LLP; ZINSINGER NORBERT ET AL**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **SECURITY DOCUMENT**

Abstract: The invention concerns a **security document** comprising a translucent carrier substrate, in particular of paper and/or plastic material, and at least one security element which is applied to the carrier substrate or embedded in the carrier substrate and which presents at least one image when viewed in the transillumination mode from at least a first side of the **security document** and simulates a presence of at least a first watermark in the carrier substrate, wherein the security element has at least region-wise at least one layer which simulates the first watermark, wherein the at least one layer of the security element, that simulates the first watermark, imparts thereto unexpected optical effects in relation to security elements with conventional watermarks.

Classifications:

International (IPC 8-9): B29D7/01 B32B29/00 B32B29/06 B41M3/14 B42D15/00 B42D15/10 B42D25/21 B42D25/29 B42D25/32 B42D25/328 B42D25/351 B42D25/355 B42D25/36 B42D25/364 B42D25/373 B42D25/382 B42D25/387 B44F1/12 D21H21/40 D21H21/44 G02B5/08 G02B5/18 G02B5/32 G03F7/00 G07D7/12 G07D7/20 (Advanced/Invention); B42D25/333 G02B5/32 (Advanced/Non-invention); B29D7/00 B32B29/00 B41M3/14 B42D15/00 B42D15/10 B44F1/00 B44F1/12 D21H21/00 D21H21/40 D21H21/44 G02B5/08 G02B5/18 G02B5/32 G03F7/00 G07D7/00 (Core/Invention); G02B5/32 (Core/Non-invention)

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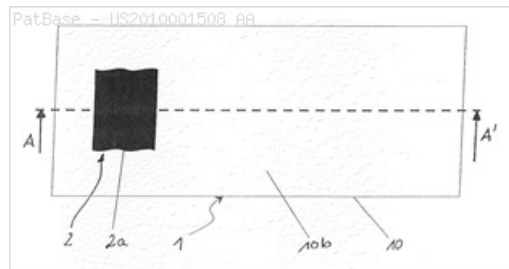
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European: B32B15/08 B32B29/06 B42D15/00C B42D15/10 D21H21/40 D21H21/42 D21H21/44 L42D33/06 L42D35/16 L42D35/20 L42D35/22 L42D35/33 L42D35/36

US: 216/47 264/1.34 264/1.340S 283/109 283/110 283/113 283/72 283/72P 283/74 283/82 283/83 283/85 283/85P 283/85S 283/91 283/91P 283/94 283/98 427/7 427/7S 430/321 430/321S

JP F-Term: 2C005/2C005/HA01 2C005/HB01 2C005/HB10 2C005/JB08 2C005/JB09 2C005/JB26 2C005/KA02 2C005/KA05 2C005/KA37 2C005/KA48 2C005/KA61 2H042 2H042/DA02 2H042/DA03 2H042/DA04 2H042/DA05 2H042/DA07 2H042/DA11 2H042/DA22 2H042/DC02 2H042/DE00 2H049 2H249 2H249/AA03 2H249/AA07 2H249/AA13 2H249/AA40 2H249/AA43 2H249/AA55 2H249/AA60 2H249/AA63 2H249/AA65 2H249/CA05 2H249/CA08 2H249/CA11 2H249/CA15 2H249/CA22 2C005/HB05 2C005/HB09 2C005/HB20 2C005/JA08 2C005/JA18 2C005/JA19 2H249/AA48 2H249/AA64 2H249/CA28

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CA2677153 AA	20090731	CA20082677153	20080207
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CN101678664 A	20100324	CN200880009722	20080207
CN101678664 B	20130731	CN200880009722	20080207
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DE102007057658 A1	20090604	DE200710057658	20071128
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EP2114673 A1	20091111	EP20080707586	20080207
EP2114673 B1	20110323	EP20080707586	20080207
EP2117840 A1	20091118	EP20080707587	20080207
EP2117840 B1	20170104	EP20080707587	20080207
EP2121320 A1	20091125	EP20080707598	20080207
EP2121320 B1	20110323	EP20080707598	20080207
ES2363878 T3	20110818	ES20080707586T	20080207
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JP5361741 B2	20131204	JP20090548622T	20080207
LT2117840 T	20170410	LT20080707587T	20080207

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PT2117840 T	20170411	PT20080707587T	20080207
RU2009133326 A	20110320	RU20090133326	20080207
RU2009133328 A	20110320	RU20090133328	20080207
RU2009133348 A	20110320	RU20090133348	20080207
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RU2448840 C2	20120427	RU20090133326	20080207
RU2453444 C2	20120620	RU20090133328	20080207
SI2117840 T1	20170531	SI20080031789	20080207
SI2121320 T1	20110531	SI20080030208T	20080207
TH66789 B	20181207	TH20081000570	20080205
TH99163 A	20091125	TH20081000570	20080205
TR201703510 T4	20170421	TR20170003510T	20080207
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TWI453129 B	20140921	TW20080103902	20080201
UA100683 C2	20130125	UA20090008383	20080207
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US2010045024 AA	20100225	US20080449366	20080207
US2010084851 AA	20100408	US20080449420	20080207
US2016257159 AA	20160908	US20160158037	20160518
US8403368 BB	20130326	US20080449459	20080207
US10259252 BB	20190416	US20160158037	20160518
WO08095696 A1	20080814	WO2008EP00924	20080207
WO08095698 A1	20080814	WO2008EP00926	20080207
WO08095706 A1	20080814	WO2008EP00941	20080207

Priority:

DE200710005884 20070207	DE200710039996 20070823	DE200710057658 20071128
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WO2008EP00924 20080207	WO2008EP00941 20080207	US20090449366 20091028
US20160158037 20160518		

Probable Assignee: LEONHARD KURZ STIFTUNG AND CO KG

Assignee(s): (std): LEONHARD KURZ STIFTUNG AND CO KG ; SCHILLING ANDREAS ; STAUB RENE ; LEONHARD KURZ STIFTUNG AND CO KG ; TOMPKIN WAYNE ROBERT ; WEBER KLAUS ; LEONHARD KURTS STIFTUNG UND KO KG ; LEONHARD KURTS STIFTUNG U KO KG ; ATTNER JURI ; LEONHARD KURZ STIFTUNG AND CO KG

Assignee(s): LEONHARD KURZ STIFTUNG AND COKG ; LEONHARD KURZ STIFTUNG CO KG

Inventor(s): (std): ANDREAS SCHILLING ; TOMPKIN UEHJN ROBERT ; ROBERT TOMPKIN WAYNE ; TOMPKIN WAYNE ; KLAUS WEBER ; JURI ATTNER ; RENE STAUB ; TOMPKIN WAYNE ROBERT ; SCHILLING ANDREAS ; STAUB RENE ; SHILLING ANDREAS ; WEBER KLAUS ; SHTAUB RENE ; WEBER KLAUS ; ATTNER JURI

Inventor(s): WAYNE ROBERT TOMPKIN

Agent(s): FISHER ADAMS KELLY; FISHER ADAMS KELLY CALLINANS; SPRUSON AND FERGUSON; FISHER ADAMS KELLY PTY LTD; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; ZINSINGER NORBERT; SALVA JOAN; TUGBA GUENDEMIR; HOFFMANN AND BARON LLP; HOFFMAN AND BARON LLP; ZINSINGER NORBERT ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD FOR PRODUCING MICROLENSSES

Abstract: A method for producing microlenses (4) comprises the steps of providing a carrier substrate (5), prestructuring the carrier substrate using the intaglio printing method, such that on a front of the carrier substrate raised regions are produced and on a back opposite of the front of the carrier substrate, recesses corresponding to the raised regions are produced, and applying translucent plastic (7, 8) on at least one side of the carrier substrate in the region of the raised regions or recesses for forming microlenses.

Classifications:

International (IPC 8-9): B29D B29D11/00 B32B B32B27/00 B41M1/10 B41M3/14 B42D B42D15/00 B42D25/30 B42D25/342 B42D25/40 G02B G02B3/00 G07D G07D7/00 G07D7/12 G07D7/20 G07D7/2033 G07D7/207 (Advanced/Invention);

B29D11/00 B32B27/00 B41M1/10 B41M3/14 B42D15/00 G02B3/00 G07D7/00 (Core/Invention);

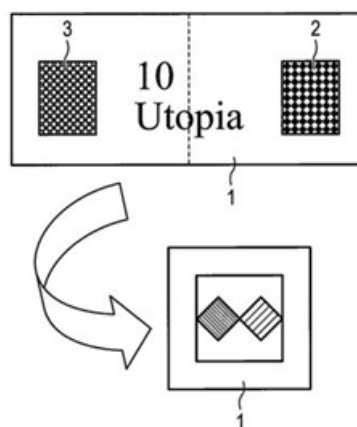
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European: B29D11/00C6 B29D11/00C9 B42D15/00C2 G02B3/00A1R G02B3/00A3L G07D7/00B G07D7/12P G07D7/20F10 L42D35/20 L42D35/44

PatBase - W011015384_A1

FIG 1



Family:

Publication number	Publication date	Application number	Application date
AU2009278274 AA	20100211	AU20090278274	20090804
AU2009278274 BB	20130801	AU20090278274	20090804
AU2009278275 AA	20100211	AU20090278275	20090804
AU2009278275 BB	20120712	AU20090278275	20090804
AU2009278275 CA	20140605	AU20090278275	20090804
AU2012216516 AA	20120920	AU20120216516	20120829
CA2732976 AA	20110203	CA20092732976	20090804
CA2732989 AA	20110203	CA20092732989	20090804
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CN106873056 A	20170620	CN201610851378	20090804
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DE502010013451 D1	20170524	DE201050013451T	20100204
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EP2321673 B1	20190220	EP20090777645	20090804
EP2338150 A2	20110629	EP20090777644	20090804
EP2462565 A1	20120613	EP20100702323	20100204
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MX2011001353 A1	20110426	MX20110001353	20090804
RU2011108217 A	20130610	RU20110108217	20090804
RU2011108225 A	20131110	RU20110108225	20090804
RU2547700 C2	20150410	RU20110108217	20090804
RU2553417 C2	20150610	RU20110108225	20090804
WO10015382 A2	20100211	WO2009EP05641	20090804
WO10015382 A3	20100527	WO2009EP05641	20090804
WO10015383 A1	20100211	WO2009EP05642	20090804
WO11015384 A1	20110210	WO2010EP51383	20100204
ZA201009116 A	20120530	ZA20100009116	20101220

Priority:

DE200810036482 20080805	AU20090278275 20090804	WO2009EP05641 20090804
CN200980130130 20090804	WO2009EP05642 20090804	EP20100702323 20100204
WO2010EP51383 20100204	AU20120216516 20120829	

Probable Assignee: GIESECKE AND DEVRIENT CURRENCY TECHNOLOGY GMBH

Assignee(s): (std): GIESECKE AND DEVRIENT GMBH ; GIESECKE DEVRIENT CURRENCY TECH GMBH ; MENGEL CHRISTOPH ; HEINE ASTRID ; KECK ANGELIKA ; VOIT MAX

Assignee(s): GIZEKE U DEVRIENT GMBKH ; GIESECKE AND DEVRIENT CURRENCY TECHNOLOGY GMBH

Inventor(s): (std): MENGEL CHRISTOPH ; KECK ANGELIKA ; VOIT MAX ; HEINE ASTRID ; KRISTOF MENGEL ; MAK FOIT ; ANGELIKA KECK ; ASTRID KHAJNE ; MAX VOIT ; ANGELIKA KECK ; CHRISTOPH MENGEL

Inventor(s): ASTRID HEINE

Agent(s): FB RICE; FB RICE PTY LTD; RIDOUT AND MAYBEE LLP; KSNH PATENTANWALTE; KSNH PATENTANWALTE ET AL; KSNH PATENTANWALTE KLUNKER SCHMITT NILSON HIRSCH

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY
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IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY
MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG
TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: MICRO-OPTICS FOR ARTICLE IDENTIFICATION

Abstract: The present invention provides methods and compositions for authentication of articles and counterfeit deterrence using non-holographic micro-optics and microstructures having a surface relief greater than a few microns. Embodiments of the present invention disclose a range of distinctive optical effects obtained from micro-optic systems incorporating micro lenses, non-imaging collectors, prisms, wave guides, mirrors, gratings, structural interference filters, and photonic crystal microstructures.

Classifications:**International (IPC 8-9):** B42D15/00 B42D25/29 B82Y20/00 G02B1/00

G02B26/00 G02B27/10 G02B27/22 G02B3/00 G02B5/00 G02B5/08

G02B5/18 G02B5/28 G03B21/60 G03F1/00 G03H1/02 G07D7/12

G07D7/20 G09C3/00 G09C5/00 (Advanced/Invention);

B42D25/328 G02B5/32 (Advanced/Non-invention)

International (IPC 1-7): B32B3/26 B42D15/00 G02B27/00 G02B27/10

G03B21/60 G06K9/74 G09C3/00 G09C5/00

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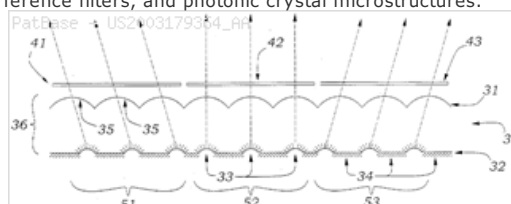
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US: 1/1 356/71 356/71P 359/291 359/291P 359/566 359/569 359/580 359/619 380/54 428/195.1 428/195.100P 428/209

428/209S 428/433 428/433S 430/5 430/5P

**Family:**

Publication number	Publication date	Application number	Application date
AU2003210673 AA	20030902	AU20030210673	20030124
AU2003214898 AA	20030902	AU20030214898	20030124
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US2007269725 AA	20071122	US20070751487	20070521
US2011299150 AA	20111208	US20110207608	20110811
US7006294 BB	20060228	US20030351285	20030124
US7221512 BB	20070522	US20030351286	20030123
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US9063274 BB	20150623	US20110207608	20110811
WO03061983 A1	20030731	WO2003US02377	20030124
WO03062900 A1	20030731	WO2003US02278	20030124

Priority:

US20020351853P 20020124	US20020352000P 20020124	US20030351286 20030123
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Probable Assignee: NANOVENTIONS INC**Assignee(s):** (std): HURT MARK J ; KNOTTS MICHAEL E ; STEENBLIK RICHARD A ; NANOVENTIONS INC**Assignee(s):** PRINTPACK ILLINOIS INC ; WELLS FARGO BANK NATIONAL ASSOCIATION ; WELLS FARGO BANK NATIONAL ASSOCIATION ADMINISTRATI ; WELLS FARGO BANK NATIONAL ASSOCIATION ADMINISTRATIVE AGENT AS ; WILMINGTON TRUST NATIONAL ASSOCIATION ADMINISTRATIVE AGENT AS ; NANOVENTIONS HOLDINGS LLC ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS**Inventor(s):** (std): STEENBLIK RICHARD A ; KNOTTS MICHAEL E ; HURT MARK J**Inventor(s):** HURT MARK ; KNOTTS MICHAEL ; STEENBLIK RICHARD**Agent(s):** THOMAS KAYDEN HORSTEMEYER AND RISLEY LLP; TODD; THOMAS HORSTEMEYER LLP**Designated states:** AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Title: MULTILAYER BODY AND METHOD FOR PRODUCING A SECURITY ELEMENT

Abstract: A multilayer body (1, 2, 3) and a method for producing a security element are described. The multilayer body has a metal layer (21). An optically active surface relief is molded at least in areas in a first surface of the metal layer (21) facing the upper side of the multilayer body or forming the upper side of the multilayer body and/or in a second surface of the metal layer (21) facing the underside of the multilayer body or forming the underside of the multilayer body. In at least one first area (31 to 39) of the multilayer body the surface relief is formed by a first relief structure (61). In at least one direction (617) determined by an allocated azimuth angle, the first relief structure (61) has a sequence of elevations (612) and depressions (614), the elevations (612) of which follow on from each other with a period P which is smaller than a wavelength of visible light, wherein the minima of the depressions (614) lie on a base surface and the first relief structure (61) has a relief depth t which is determined by the spacing of the maxima of the elevations (612) of the first relief structure (61) from the base surface in a direction perpendicular to the base surface. The profile shape and/or the relief depth t of the first relief structure (61) is chosen such that the colored appearance of the light (52, 53) incident on the first area (31 to 39) at least at a first angle of incidence and directly reflected by the metal layer (21) in the first area or directly transmitted through the metal layer is modified, in particular is modified by plasmon resonance of the metal layer with the incident light.

Classifications:

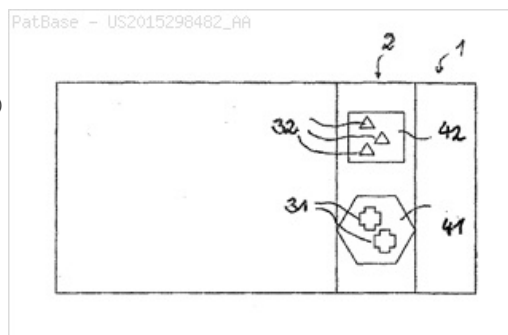
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CPC: B42D25/30 B42D25/40 B41F19/02 G02B5/1861 B42D25/328 G02B5/1819 G03H1/0244 G03H1/0011 G02B5/1852 B42D25/29 G02B5/008 B42D2035/24 B42D25/324 B42D25/342 B42D25/36 B42D25/373 B42D25/378 G02B5/1842

US: 101/32 359/572

JP F-Term: 2C005 2C005/HA01 2C005/HB01 2C005/HB09 2C005/HB10 2C005/JA19 2C005/JB09 2C005/JB11 2C005/KA05 2C005/LA16 2H249 2H249/AA07 2H249/AA13 2H249/AA25 2H249/AA40 2H249/AA60 2H249/AA64 3E041 3E041/AA03 3E041/BA12 3E041/BB02 3E041/BB03

JP F-Index: B42D15/10/230 B42D15/10/290 B42D15/10/331 B42D15/10/360 B42D15/10/450 B42D25/23 B42D25/29 B42D25/30 B42D25/328/120 B42D25/36 B42D25/45 G02B5/18 G07D7/12 G07D7/128



Family:

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DE502013008735 D1	20171214	DE201350008735T	20131106
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JP6452096 B2	20190116	JP20150540175T	20131106
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MX2015005612 A1	20150820	MX20150005612	20131106
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PH2015501012 A	20150727	PH20150501012	20150506
US2015298482 AA	20151022	US20130439526	20131106
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WO14072358 A1	20140515	WO2013EP73193	20131106

Priority:

DE201210110630 20121106 EP20130788969 20131106 WO2013EP73193 20131106
US20150439526 20150429 US20180875446 20180119

Probable Assignee: OVD KINEGRAM

Assignee(s): (std): OVD KINEGRAM AG

Assignee(s): TOMPKIN WAYNE ROBERT DECEASED ; WALTER HARALD ; OVD KINEGRAM

Inventor(s): (std): WALTER HARALD ; WAYNE ROBERT TOMPKIN ; WAYNE ROBERT TOMPKIN FALECIDO ; ROBERT TOMPKIN WAYNE ; HARALD WALTER ; TOMPKIN WAYNE ROBERT

Inventor(s): TOMPKIN WAYNE ROBERT DECEASED

Agent(s): FISHER ADAMS KELLY PTY LTD; FISHER ADAMS KELLY CALLINANS; SPRUSON AND FERGUSON; GOWLING LAFFLEUR HENDERSON LLP; LOUIS POEHLAU LOHRENTZ; NY OLGA K SANTOSO BSC SH LLM; ZINSINGER NORBERT

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SECURITY ELEMENT AND METHOD FOR PRODUCING A SECURITY ELEMENT

Abstract: A security element (1), in particular value document, and a process for producing same are described. The security element has a **pattern** area (21), consisting of one or more design elements (22), the shape of which provides a first optically perceptible item of information. It furthermore has a background area (20) surrounding the one or more design elements of the **pattern** area at least in areas. The security element (1) has an opaque reflective layer which is not provided in the background area (20), and in the **pattern** area (21) is provided in first zones (31), but not in second zones. The first zones (31) are spaced apart from each other by less than 300 µm and have a minimum dimension of less than 300 µm.

Classifications:

International (IPC 8-9): B24D15/00 B42D15/00 B42D15/10 B42D25/23 B42D25/29 B42D25/30 B42D25/328 B42D25/342 B42D25/40 B42D25/435 B42D25/45 B44F1/12 G02B5/18 G03H1/02 (Advanced/Invention)

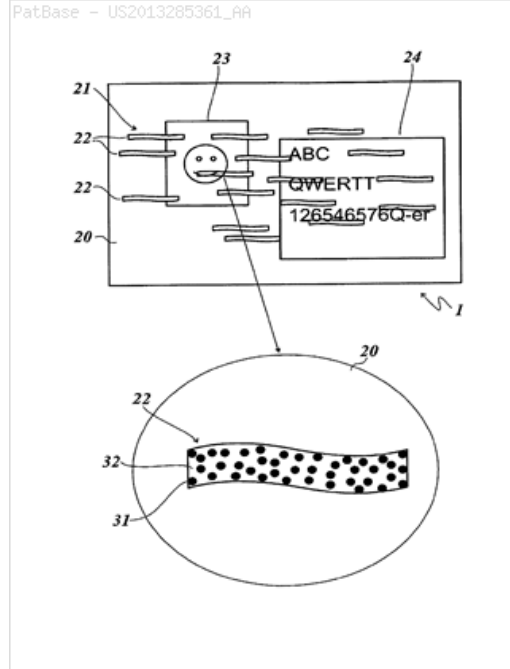
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US: 264/400 283/85

JP F-Term: 2C005/HA01 2C005/HB01 2C005/HB10 2C005/HB20 2C005/JB08 2C005/JB09 2C005/JB18 2C005/JB26 2C005/JB27 2C005/KA02 2C005/KA05 2C005/KA25 2C005/KA31 2C005/KA37 2C005/KA40 2C005/KA48 2C005/KA51 2C005/KA61 2C005/LA19 2C005/LA20 2C005/LB07 2C005/LB15 2H249 2H249/CA05 2H249/CA09 2H249/CA22 2K008 2K008/AA13 2K008/FF11 2K008/FF17

JP F-Index: B42D15/10/290 B42D15/10/329 B42D15/10/331 B42D15/10/342 B42D15/10/435 B42D15/10/450 B42D25/29 B42D25/328/100 B42D25/328/120 B42D25/342 B42D25/435 B42D25/45 G02B5/18 G03H1/02



Family:

Publication number	Publication date	Application number	Application date
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AU2011325516 BB	20141030	AU20110325516	20111031
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CN103370206 B	20160817	CN201180058652	20111031
DE102010050031 A1	20120503	DE201010050031	20101102
EP2635444 A2	20130911	EP20110779583	20111031
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JP2014500811 T2	20140116	JP20130537033T	20111031
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MX2013004875 A1	20130702	MX20130004875	20111031
RU2013125471 A	20141210	RU20130125471	20111031
RU2596447 C2	20160910	RU20130125471	20111031
US2013285361 AA	20131031	US20110881942	20111031
WO12059208 A2	20120510	WO2011EP05489	20111031
WO12059208 A3	20120920	WO2011EP05489	20111031
WO12059208 A8	20130822	WO2011EP05489	20111031

Priority:

DE201010050031 20101102 WO2011EP05489 20111031

Probable Assignee: OVD KINEGRAM AG

Assignee(s): (std): HANSEN ACHIM ; OVD KINEGRAM AG ; SCHILLING ANDREAS ; STAUB RENE

Inventor(s): (std): ACHIM HANSEN ; ANDREAS SCHILLING ; RENE STAUB ; SHILLING ANDREAS ; KHANZEN AKHIM ; SHTAUB RENE ; HANSEN ACHIM ; STAUB RENE ; SCHILLING ANDREAS

Agent(s): FISHER ADAMS KELLY; FISHER ADAMS KELLY PTY LTD; SPRUSON AND FERGUSON; FISHER ADAMS KELLY CALLINANS; ZINSINGER NORBERT

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SECURITY THREAD

Abstract: An anti-counterfeiting **security** thread for incorporation into **documents** and banknotes. The **security** thread has at least two zones located respectively on either side of a separation line extending longitudinally along the thread. Two optically variable security elements having different appearances are disposed in the first zone and second zones of the security thread. The optically variable elements are arranged with respect to the separation line so that each of the two optically variable elements has a first perceived appearance from a first direction of observation and a second perceived appearance from a second direction of observation, wherein the first and the second perceived appearances are different.

Classifications:

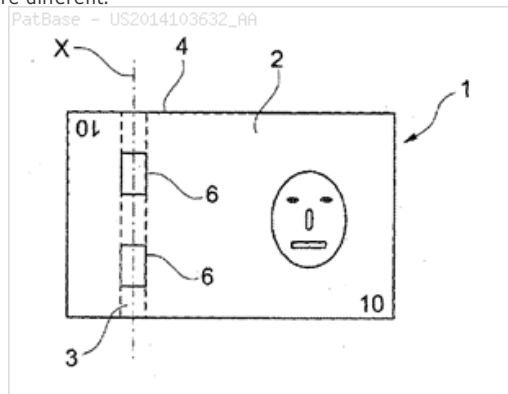
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International (IPC 1-7): B42D15/10

CPC: B42D25/21 B42D25/373 B42D25/41 B42D25/425 B42D25/355 B42D25/369 B42D25/475 B42D2035/20 B42D2035/44 Y10T83/0405 D21H21/42

European: D21H21/42

US: 283/67 283/85 83/14

**Family:**

Publication number	Publication date	Application number	Application date
BR112013032819 A2	20170131	BR20131132819	20120622
CN103748284 A	20140423	CN201280040891	20120622
CN103748284 B	20160406	CN201280040891	20120622
DE602012022890 D1	20161027	DE201260022890T	20120622
EP2723945 A1	20140430	EP20120741093	20120622
EP2723945 B1	20160914	EP20120741093	20120622
ES2605835 T3	20170316	ES20120741093T	20120622
FR2976954 A1	20121228	FR20110055529	20110623
FR2976954 B1	20130712	FR20110055529	20110623
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KR20140040166 A	20140402	KR20137033745	20120622
PL2723945 T3	20170228	PL20120741093T	20120622
RU2014101957 A	20150727	RU20140101957	20120622
RU2607811 C2	20170120	RU20140101957	20120622
UA111365 C2	20160425	UA20140000679	20120622
US2014103632 AA	20140417	US20130134601	20131219
US9701151 BB	20170711	US20130134601	20131219
WO12176169 A1	20121227	WO2012IB53175	20120622

Priority:

FR20110055529 20110623 EP20120741093 20120622 WO2012IB53175 20120622
US20130134601 20131219

Probable Assignee: ARJOWIGGINS SECURITY

Assignee(s): (std): ARJOWIGGINS SECURITY ; ARJOWIGGINS SECURITY INTEGRALE SOLUTIONS ; ARZHOVIGZHEN SIKYURITI ; CAMUS MICHEL ; DOUBLET PIERRE

Assignee(s): OBERTHUR FIDUCIAIRE SAS

Inventor(s): (std): CAMUS MICHEL ; DOUBLET PIERRE ; MICHEL CAMUS ; PIERRE DOUBLET ; KAMYU MISHEL ; DUBLE PER

Agent(s): STREHL SCHUEBEL HOPF AND PARTNER MBB PATENTANWALTE EUROPEAN PATENT ATTORNEYS; NONY; CURELL MIREIA; CABINET NONY; JONES ROBB PLLC; TANTY FRANCOIS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: AUTHENTICATION OF DOCUMENTS AND ARTICLES BY MOIRE **PATTERNS**

Abstract: The present invention relies on the moire **patterns** generated when superposing a base layer made of base band **patterns** and a revealing line grating (revealing layer). The produced moire **patterns** comprise an enlargement and a transformation of the individual **patterns** located within the base bands. Base bands and revealing line gratings may be rectilinear or curvilinear. When translating or rotating the revealing line grating on top of the base layer, the produced moire **patterns** evolve smoothly, i.e. they may be smoothly shifted, sheared, and possibly be subject to further transformations. Base band **patterns** may incorporate any combination of shapes, intensities and colors, such as letter, digits, text, symbols, ornaments, logos, country emblems, etc... They therefore offer great possibilities for creating **security documents** and valuable articles taking advantage of the higher imaging capabilities of original imaging and printing systems, compared with the possibilities of the reproduction systems available to potential counterfeiters. Since the revealing line grating reflects a relatively high percentage of the incident light, the moire **patterns** are easily apparent in reflective mode and under normal illumination conditions. They may be used for the authentication of any kinds of documents (banknotes, identity documents, checks, diploma, travel documents, tickets) and valuable articles (optical disks, CDs, DVDs, CD-ROMs, packages for medical drugs, bottles, articles with affixed labels).

Classifications:

International (IPC 8-9): B41M3/14 B42D15/00 B42D15/10 B42D25/342 G06K G06K19/16 G06K9/00 G06K9/36 G06K9/74 G06Q99/00 G07D G07D7/02 G07D7/12 G07D7/128 G07D7/20 G07D7/207 G09B19/18 G09F19/12 G09F3/02 H04L9/32 H04N1/40 (Advanced/Invention); G06K9/00 G07D7/12 (Advanced/Non-invention); B41M3/14 B42D15/00 B42D15/10 G06K19/14 G06K9/00 G06K9/36 G06K9/74 G06Q99/00 G07D7/00 G09B19/00 G09F19/12 G09F3/02 H04L9/32 H04N1/40 (Core/Invention); G06K G07D (Subclass/Invention)

International (IPC 1-7): B42D15/00 G06K9/00 G07D0/00 G07D7/12 G07D7/20

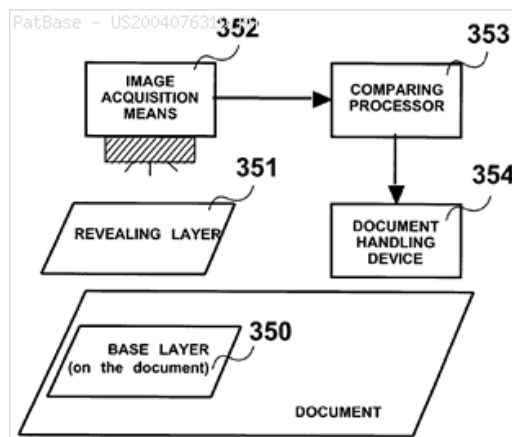
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US: 283/94 356/71 358/3.28 358/3.280S 380/258 382/100 382/100P 382/135 382/137 382/276 382/286 434/110 705/50 713/155 713/176

JP F-Term: 2C005 2C005/HA02 2C005/HB01 2C005/HB02 2C005/HB13 2C005/HB20 2C005/JA09 2C005/JA12 2C005/JA18 2C005/JA19 2C005/JB08 2C005/JB09 2C005/JB11 2C005/JB14 2C005/JB22 2C005/JB25 2C005/KA40 2H113 2H113/AA01 2H113/BA01 2H113/BB22 2H113/CA31 2H113/CA39 3E041 3E041/AA01 3E041/AA02 3E041/AA03 3E041/BA11 3E041/BA14 3E041/BA16 3E041/BA17 3E041/BB01 3E041/BC06 3E041/EA03 5C091 5G445

JP F-Index: B41M3/14 B42D15/10/220 B42D15/10/300 B42D15/10/337 B42D15/10/342 B42D15/10/501/P B42D15/10/531/B B42D25/22 B42D25/30 B42D25/337 B42D25/342 G07D7/00/H G07D7/0047 G07D7/02 G07D7/128 G07D7/20 G07D7/207 G09F19/12/H G09F3/02/W



Family:

Publication number	Publication date	Application number	Application date
AT350734 E	20070115	AT20030808797T	20030924
AT399097 E	20080715	AT20050755119T	20050623
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AU2003260925 AA	20040504	AU20030260925	20030924
AU2003260925 BB	20090108	AU20030260925	20030924
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CA2534797 C	20110531	CA20032534797	20030924
CA2591756 AA	20070619	CA20052591756	20050623
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CA2611407 AA	20071207	CA20062611407	20060606
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PL219620 B1	20150630	PL20030376174	20030924
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US2004076310 AA	20040422	US20020270546	20021016
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WO04036507 A2	20040429	WO2003IB04202	20030924
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WO06006063 A1	20060119	WO2005IB01964	20050623
WO06131831 A1	20061214	WO2006IB01646	20060606
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Priority:

US20020270546 20021016 WO2003IB04202 20030924 US20040879218 20040630
US20050149017 20050610 WO2005IB01964 20050623 US20060349992 20060209
WO2006IB01646 20060606 US20060589240 20061030

Probable Assignee: ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE EPFL

Assignee(s): (std): CHOSSON SYLVAIN ; ECOLE POLYTECH ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE EPFL ; HERSCH ROGER D ; EHKOL POLITEKNIK FEDERAL DE LO

Assignee(s): ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE EPFL SRI ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE EPFL SRI STATION ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE EPFLCH-1015LAUSANNECH ; EHKOL POLITEKNIK FEDERAL DE LOZANN ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANN ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE (EPFL) ; ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE EFPL

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Inventor(s): SHOSSON SIL'VEN ; HERSCH ROGER DCH ; CHOSSON SYLVAUNCH

Agent(s): WATERMARK INTELLECTUAL PROPERTY PTY LTD; WATERMARK PATENT AND TRADE MARKS ATTORNEYS; STIKEMAN ELLIOTT SENCRL SRL LLP; SMART AND BIGGAR; REUTELER RAYMOND WERNER; CLT PATENT AND TRADEMARK HK LTD; ROGER D HERSCH ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE; ROGER D HERSCH

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: METHOD FOR PRODUCING A **SECURITY DOCUMENT** HAVING A **SECURITY** FEATURE THAT IS DEPENDENT ON THE VIEWING ANGLE AND **SECURITY DOCUMENT**

Abstract: The invention relates to a method for producing a **security document** (42) having a **security** feature that is dependent on the viewing angle and to such a **security document** (42). A preferred embodiment of the method according to the invention comprises the following steps: printing print information (47) on a substrate layer (45); and integrating the imprinted substrate layer (45) in a document body (41) and introducing microlenses (51) into a surface of the document body (41), wherein the microlenses (51) are introduced after the imprinted substrate layer (45) has been integrated in the document body (41) by optically capturing the print information (47) integrated in the document body (41) and evaluating at least one feature of the captured print information (47), and on the basis of the evaluated feature, one or more tools are oriented relative to the document body (41) and subsequently the microlenses (51) are introduced into the surface with precise fit in relation to the integrated print information (47).

Classifications:

International (IPC 8-9): B41M3/14 B41M5/24 B42D15/00 B42D15/10 B42D25/29 B42D25/30 B42D25/355 B42D25/41 B42D25/425 B42D25/43 B44F1/12 G02B3/00 (Advanced/Invention)

CPC: B41M5/24 G02B3/0031 G02B3/0037 B42D25/41 B42D25/425 B42D25/43 B42D25/29 B42D25/324 B42D25/328 B42D25/355 B42D25/382 B42D25/387 B42D25/30 B41M3/148 B42D2033/10 B42D2033/20 B42D2035/14 B42D2035/20

European: B41M3/14T B42D15/00C B42D15/00C4 G02B3/00A1R G02B3/00A3 L41M5/24 L42D31/08 L42D31/14 L42D31/16 L42D33/10 L42D33/20 L42D35/14 L42D35/20 L42D35/22 L42D35/28 L42D35/38 L42D35/40 L42D35/44

PatBase - WO12049096_A2

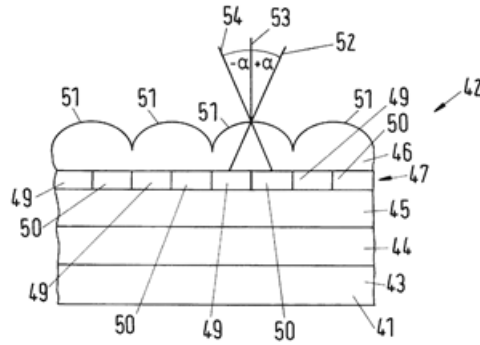


Fig.8

Family:

Publication number	Publication date	Application number	Application date
CN103380006 A	20131030	CN201180049661	20111007
CN103380006 B	20160224	CN201180049661	20111007
DE102010048772 A1	20120419	DE201010048772	20101013
DE502011009846 D1	20160707	DE201150009846T	20111007
EP2627517 A2	20130821	EP20110770410	20111007
EP2627517 B1	20160525	EP20110770410	20111007
WO12049096 A2	20120419	WO2011EP67588	20111007
WO12049096 A3	20121101	WO2011EP67588	20111007

Priority:

DE201010048772 20101013 EP20110770410 20111007 WO2011EP67588 20111007

Probable Assignee: BUNDESDRUCKEREI GMBH

Assignee(s): (std): BOSIEN ANDREAS ; BUNDESDRUCKEREI GMBH ; KUNATH CHRISTIAN ; LEOPOLD ANDRE ; MAERTENS DETLEF

Inventor(s): (std): MAERTENS DETLEF ; BOSIEN ANDREAS ; KUNATH CHRISTIAN ; LEOPOLD ANDRE DR ; LEOPOLD ANDRE

Agent(s): PATENTANWALTE BRESSEL U PARTNER MBB; OBST BERNHARD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHODS FOR PRODUCING LENS ARRAYS

Abstract: A lens array for imaging image elements in an object plane, and a method of making a lens array. The lens array includes lenslets formed in or on one side of a transparent or translucent material with the image elements disposed on the opposite side, and has a gauge thickness corresponding to the distance from the apex of each lenslet to the object plane. Each lenslet has a set of lens parameters. The gauge thickness and/or at least one lens parameter is or are optimised such that each lenslet has a focal point size in the object plane which is either substantially equal to the size of the image elements in the object plane, or varies from the size of the image elements by a predetermined amount.

Classifications:

International (IPC 8-9): B42D B42D15/10 B42D25/00 B42D25/20 B42D25/29 B42D25/30 B42D25/328 B42D25/351 B42D25/40 G02B G02B1/12 G02B13/00 G02B13/18 G02B13/24 G02B27/02 G02B27/06 G02B27/10 G02B27/12 G02B27/18 G02B27/22 G02B3/00 G03B21/60 G03B25/02 G06F17/50 G06F19/00 (Advanced/Invention); B42D25/30 B42D25/324 G03B5/04 H04N13/04 (Advanced/Non-invention); B42D15/10 G02B27/02 G02B27/22 G02B3/00 (Core/Invention); B42D G02B (Subclass/Invention)

International (IPC 1-7): B24D15/10 B42D15/00 B42D15/10 G02B27/22 G02B3/00

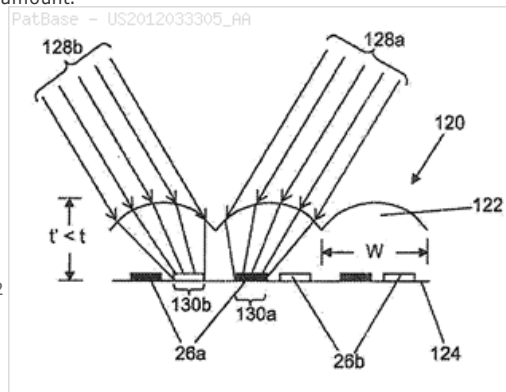
CPC: G02B3/0037 G02B3/0012 G06F17/50 G02B3/0006 G02B27/2214 B42D25/00 B42D25/30 G02B3/0025 G02B27/06 G03B5/04 G03B25/02 B42D25/29 B42D25/324 G02B3/005 G02B3/0056 H04N13/305 G02B27/22 B42D25/351 G02B3/00

European: B42D15/00C G02B3/00A3L G02B3/00A3S L42D35/28

US: 1/1 264/1.36 264/1.360S 264/1.37 264/1.370S 264/1.7 359/443 359/619 359/619P 700/103 700/103S 703/1

JP F-Term: 2H199 2K010 2C005 2C005/HA02 2C005/HB10 2C005/KA40 2C005/LA29 2C005/LA32 2H087 2H087/KA08 2H087/KA18 2H087/LA01 2H087/PA01 2H087/PA17 2H087/PB01 2H087/QA13 2H087/QA33 2H087/RA05 2H087/RA12 2H087/RA26 2H087/RA44 2H113 2H113/CA37 2H113/CA39 2H199/EA06 5G445

JP F-Index: G02B27/18/A G02B3/00/A G02B3/00/Z B41M3/14 B42D15/10/300 B42D25/30 G02B13/00 G02B13/18 G02B13/24 G02B27/06 G09F19/12/F

**Family:**

Publication number	Publication date	Application number	Application date
AP201105884 A0	20111031	AP20110005884	20100303
AR075794 AA	20110427	AR2010P100656	20100304
AT510245 A2	20120215	AT20100009093	20100303
AU2010220815 AA	20100910	AU20100220815	20100303
AU2010220815 BB	20140605	AU20100220815	20100303
BE1019207 AF	20120403	BE20100000132	20100303
BRPI1006520 A2	20180214	BR2010PI06520	20100303
CA2753848 AA	20110829	CA20102753848	20100303
CA2753848 C	20170829	CA20102753848	20100303
CH702978 B1	20160915	CH20110001427	20100303
CL2011002092 A1	20120113	CL20110002092	20110826
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FR2942885 A1	20100910	FR20100051574	20100304
FR2942885 B1	20161216	FR20100051574	20100304
GB201114704 A0	20111012	GB20110014704	20100303
GB201415215 A0	20141015	GB20140015215	20100303
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GB2481330 A1	20111221	GB20110014704	20100303
GB2481330 B2	20141224	GB20110014704	20100303
GB2515208 A1	20141217	GB20140015215	20100303
GB2515208 B2	20150128	GB20140015215	20100303
GB2515209 A1	20141217	GB20140015216	20100303
GB2515209 B2	20150128	GB20140015216	20100303
HK1162685 A1	20151023	HK20120102839	20120321
HK1162685 A1	20120831	HK20120102839	20120321
HK1162685 B	20151023	HK20120102839	20120321
IN06283CN2011 A	20121228	IN2011CN06283	20110902
JP2012519305 T2	20120823	JP20110552280T	20100303
JP2017027063 A2	20170202	JP20160171483	20160902
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KR101777834 B1	20170926	KR20117023264	20100303
KR20110123280 A	20111114	KR20117023264	20100303
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RO127445 B1	20180830	RO20110000837	20100303
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TH114926 A	20120718	TH20111001868	20100303

TH60461 B	20180202	TH20111001868	20100303
US2012033305 AA	20120209	US20100203070	20100303
US2014160572 AA	20140612	US20130033649	20130923
US8537469 BB	20130917	US20100203070	20100303
US9442224 BB	20160913	US20130033649	20130923
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Priority:

US20090157309P 20090304 GB20110014704 20100303 JP20110552280T 20100303
US20100203070 20100303 WO2010AU00243 20100303 US20110203070 20111026
US20130033649 20130923 JP20160171483 20160902

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: MULTILAYER BODY AND METHOD FOR PRODUCING A MULTILAYER BODY

Abstract: The invention concerns a multilayer body (5) and a process for producing a multilayer body (5). The multilayer body (5) has a transparent first layer (51) in which a multiplicity of **cylindrical lenses** of a length of more than 2 mm and a width of less than 400 micro m are shaped, which are arranged in accordance with a microlens grid spanning a first co-ordinate system having a co-ordinate axis X1 which is determined by the focal point lines of the **cylindrical lenses**, and a co-ordinate axis Y2 perpendicular thereto. In a second layer (52) arranged beneath the first layer in a fixed position with respect to the first layer there are a multiplicity of microscopic structures in the form of microimages which are distorted along a longitudinal axis with respect to a transverse axis in accordance with a transformation function and which are arranged in accordance with a microimage grid spanning a second co-ordinate system having a co-ordinate axis X2 and a co-ordinate axis Y2 perpendicular thereto. In a region of the multilayer body in which the microlenses of the microlens grid and the microscopic structures of the microimage grid are in superposed relationship the line spacing determined by the spacing of the focal point lines of the **cylindrical lenses** and the microimage spacing determined by the spacing of the centroids of the microimages differ from each other by not more than 10 percent. To produce the multilayer body (5) the second layer is applied to a third layer, the first layer is arranged above the third layer and the first, second and third layers are laminated together using heat and pressure by means of a tool (41, 42, 43) acting on the top side of the first layer and the underside of the third layer. In that case the lens grid is shaped into the surface of the first layer into the top side of the first layers by means of a pressing plate in which the negative form of the lens grid is shaped.

Classifications:

International (ipc 8-9): B29D11/00 B32B37/00 B32B38/06 B42D15/00 B42D15/10 B42D25/328 B42D25/425 B42D25/455 B42D25/46 B44F1/12 D21H21/40 G02B27/00 G02B27/09 G02B27/10 G02B27/12 G02B27/42 G02B3/00 G02B3/06 G06K19/077 (Advanced/Invention); B29D11/00 B42D15/00 B42D15/10 B44F1/00 G02B27/00 G02B27/42 G02B3/02 G06K19/077 (Core/Invention)

International (ipc 1-7): B42D15/00

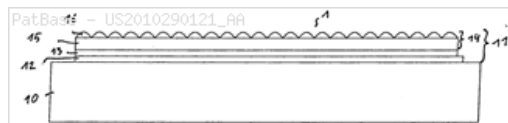
CPC: B42D25/29 G02B3/0056 G02B27/0905 G02B27/0961 Y10T156/1039 B29D11/0073 B29D11/00278 B42D2033/24

European: B29D11/00C6 B29D11/00H B42D15/00C G02B27/09A G02B27/09S2L1 G02B3/00A3S L42D33/24

US: 156/219 156/219S 359/576 359/576P 359/618 359/619 359/623 359/628 359/628S

JP F-Term: 2C005 2C005/HA02 2C005/HB20 2C005/JA09 2C005/JB08 2C005/JB09 2C005/KA02 2C005/KA40 2C005/KA48 2C005/LA02 2C005/LA07 2C005/LA14 2C005/LA24 2C005/LA29 2K010

JP F-Index: B42D15/10/300 B42D15/10/328 B42D15/10/425 B42D15/10/455 B42D15/10/460 B42D15/10/501/G B42D15/10/501/P B42D25/30 B42D25/328 B42D25/425 B42D25/455 B42D25/46 G02B3/00/A

**Family:**

Publication number	Publication date	Application number	Application date
AU2008314093 AA	20090423	AU20080314093	20081015
AU2008314093 BB	20130131	AU20080314093	20081015
AU2008314093 CA	20160915	AU20080314093	20081015
BRPI0817582 A2	20150331	BR2008PI17582	20081015
CA2701746 AA	20090423	CA20082701746	20081015
CA2701746 C	20160105	CA20082701746	20081015
CN101821110 A	20100901	CN200880111520	20081015
CN101821110 B	20130821	CN200880111520	20081015
DE102007049512 A1	20090416	DE200710049512	20071015
DE102007049512 B4	20100930	DE200710049512	20071015
DE502008010580 D1	20131017	DE200850010580T	20081015
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ES2437174 T3	20140109	ES20080839343T	20081015
IN02011DN2010 A	20100813	IN2010DN2011	20100322
JP2011502811 A2	20110127	JP20100529283	20081015
JP2011502811 T2	20110127	JP20100529283T	20081015
JP5498948 B2	20140521	JP20100529283T	20081015
PT2200841 T	20131007	PT20080839343T	20081015
RU2010119492 A	20111127	RU20100119492	20081015
RU2484975 C2	20130620	RU20100119492	20081015
UA99932 C2	20121025	UA20100005868	20081015
US2010290121 AA	20101118	US20080682879	20081015
US8514492 BB	20130820	US20080682879	20081015
WO09049866 A1	20090423	WO2008EP08711	20081015

Priority:

DE200710049512 20071015 EP20080839343 20081015 WO2008EP08711 20081015

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Inventor(s): DR ANDREAS SCHILLING ; DR WAYNE ROBERT TOMPKIN ; WAYNE ROBERT TOMPKIN

Agent(s): FISHER ADAMS KELLY; SPRUSON AND FERGUSON; FISHER ADAMS KELLY PTY LTD; FISHER ADAMS KELLY CALLINANS; GOWLING LAFLEUR HENDERSON LLP; LOUIS POEHLAU LOHRENTZ; ZINSINGER NORBERT; GARCIA CABRERIZO GARCIA CABRERIZO PEDRO; HOFFMANN AND BARON LLP; ZINSINGER NORBERT ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

