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Datasheet for the decision of 26 February 2024

Case Number: T 1162/21 - 3.2.05

Application Number: 15700780.8

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Language of the proceedings: EN

Title of invention:
Security Elements and Methods of their Manufacture

Patent Proprietor:
De La Rue International Limited

Opponents:
Giesecke+Devrient Currency Technology GmbH
Leonhard Kurz Stiftung & Co. KG

Relevant legal provisions:
EPC Art. 54, 56, 123(2)
RPBA 2020 Art. 13(1)

Keyword:

Amendment to appeal case - justification by party (no)
Amendments - extension beyond the content of the application as filed (no)
Novelty - main request (yes)
Inventive step - main request (yes)

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Case Number: T 1162/21 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 26 February 2024

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Representative:	Gill Jennings & Every LLP The Broadgate Tower 20 Primrose Street London EC2A 2ES (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 2 June 2021 concerning maintenance of the European Patent No. 3096960 in amended form.**

Composition of the Board:

Chairman	O. Randl
Members:	M. Holz
	A. Bacchin

Summary of Facts and Submissions

I. Opponent 1 (appellant I) and opponent 2 (appellant II) appealed against the opposition division's interlocutory decision finding that, account being taken of the amendments made by the patent proprietor during the opposition proceedings according to the main request, European patent No. 3 096 960 ("the patent") and the invention to which it related met the requirements of the EPC.

II. The following documents are cited in this decision.

D1: WO 2012/084182 A2

D2: WO 2014/121908 A1

D3: WO 2009/100831 A2

D4: WO 2009/024265 A1

D5: WO 94/14621 A1

D6/E1: WO 2007/107235 A1

D7: DE 10 2010 047 250 A1

D8: WO 2011/051670 A2

E2: R.L. van Renesse: "Optical Document Security", 3rd edition, Artech House optoelectronics library, 2005, pages vii-xi, 258, 259, 352 and 353.

E2': "Chromagram-Type-I"

E3: WO 03/097378 A2

E4: EP 0 105 099 A1

E6: WO 02/00445 A1

Document E1 is identical to document D6.

III. Oral proceedings before the board were held on 26 February 2024.

IV. Appellant I (opponent 1) and appellant II (opponent 2) requested that the decision under appeal be set aside and that the patent be revoked. Appellant I further requested not to admit into the proceedings auxiliary requests 3 and 12 to 15; appellant II further requested not to admit into the proceedings auxiliary requests 4 to 11, 14 and 15.

The respondent (patent proprietor) requested that the opponents' appeals be dismissed (main request) or, as an auxiliary measure, that the decision under appeal be set aside and the patent be maintained as amended on the basis of the claims of one of auxiliary requests 1 to 7 filed with the reply to the opponents' statements of grounds of appeal, auxiliary request 8 filed on 15 November 2022, or one of auxiliary requests 9 to 15 filed with the reply to the opponents' statements of grounds of appeal.

V. Claim 1 of the main request on which the decision under appeal is based reads (the feature identification employed by the board is included in square brackets):

"**[1]** *A security element (10) comprising a substrate (19) on which is disposed:*
[2] *in a first area (15), a first optically variable device* **[2a]** *comprising a diffractive or reflective relief structure (18a)* **[2b]** *and a reflection enhancing material (17) following the contours of the relief structure; and*
[3] *in a second area (11), a second optically variable device* **[3a]** *comprising an iridescent amplitude interference material (13);*

[4] *characterised in that the first optically variable device is constituted by a plurality of sub-areas arranged in a cyclically repeating sequence along a predetermined direction of the security element,* **[5]** *the plurality of sub-areas collectively forming the first area,* **[6]** *the relief parameters of the diffractive or reflective relief structure (18a) varying from one sub-area to the next within each repeat cycle* **[7]** *whereby, at any one viewing angle, each sub-area within any one repeat cycle exhibits a different diffractive colour or reflected intensity from those of the other sub-areas within the same repeat cycle,* **[8]** *and such that, when the device is tilted, the different diffractive colours or reflected intensities appear to move from one sub-area to the next within each repeat cycle along the predetermined direction.*"

Claim 12 of the main request reads:

"*A security element according to any of the preceding claims, wherein the iridescent amplitude interference material is disposed in both the first and second areas of the element, and is substantially concealed in the first area of the element by light diffracted or reflected from the diffractive or reflective relief structure.*"

VI. The parties made the following submissions.

(a) *The respondent's main request – Unallowable amendment (Article 123(2) EPC)*

(i) *Appellant II*

Paragraphs [0064] and [0065] of the description of the patent as granted were not supported by the application as filed, on which the patent is based ("the application as filed"). The embodiment described on page 23, line 33 to page 24, line 17 of the application as filed related to the third aspect of the invention, but not to the first aspect of the invention. As a result of the expression "*in the third aspect of the invention*" being deleted from the description of the patent, a feature combination was described that was not disclosed in the application as filed. Page 24, line 19 to page 25, line 7 of the application as filed also referred to the third aspect of the invention. Hence the substitution of the expression "*The third aspect of the invention further provides*" by the expression "*Disclosed here is*" was not supported by the application as filed.

(ii) *Respondent*

The skilled person would have understood paragraphs [0064] and [0065] of the patent to relate to the "disclosed" security element of paragraph [0052] and so would not have read this teaching in combination with the security element of the first aspect set out in paragraph [0007] of the patent. Paragraph [0064] stated that "*in particularly preferable examples, a diffractive or reflective relief structure as utilised*

in the first aspect of the invention is provided". This clearly indicated that paragraph [0064] was not related to the first aspect of the invention, since it was referencing incorporation of features from the first aspect of the invention. The deletion of the reference to the third aspect of the invention did not cause the skilled person to read any new combinations of features from paragraphs [0064] and [0065] of the patent.

(b) *The respondent's main request - Novelty (Article 54 EPC)*

(i) *Appellants I and II*

The subject-matter of claim 1 of the main request was not new in view of documents D1, D2, E1, E2 or E3.

Document D1 disclosed that, in motif area 3, security element 1 could, in addition to the first motif 4, be provided with a colour-shifting coating (see page 24, line 6, page 20, lines 10 to 12 and page 6, lines 15 and 16, and claim 17 of document D1). The first motif 4 represented a first optically variable device and the motif area 3 outside the first motif 4 having a colour-shifting coating represented a second optically variable device. These were located in different areas of the security element 1 and were distinguishable from each other. This also followed from page 6, lines 15 and 16 in combination with page 11, lines 22 to 25 of document D1. A combination of these passages was disclosed in view of page 7, lines 1 to 4, the combination of claims 16 and 17 of document D1 and the fact that both passages concerned the same invention.

Feature 8 was disclosed in the context of Figures 5 and 6, page 15, lines 22 to 29 and page 22, lines 12 to

17 of document D2. Page 16, first paragraph of document D2 referred at most to the immediately preceding embodiment of Figure 6, but not necessarily to that of Figure 5. According to page 15, line 25 of document D2, the strips of Figure 5 had a width of 100 µm. Such strips were visible to the unaided eye. Further embodiments could be found in Figures 7 and 8 of document D2, which had a pattern with an apparent colour or intensity shift when tilted. Appellant I had already referred to page 22, lines 12 to 17 of document D2 during the first-instance opposition proceedings.

In view of paragraph [0013] of the patent, the expression "predetermined direction" (see feature 4) was not to be interpreted as a linear direction. The direction could change from section to section as shown in Figure 7 of the patent. It could even be reversed. According to page 4, lines 15 to 20 of the patent, a single repeat in one section was sufficient. A reversed movement effect for areas 41 to 45 and areas 46 to 49 was disclosed on page 16, line 27 to page 17, line 16 of document E1 in the context of the embodiment shown in Figure 4 and in claims 1, 3, 5 and 9 of document E1.

The subject-matter of claim 1 of the main request was not new in view of "Chromagram Type I" and "Chromagram Type II", both affixed to page 352 of document E2. Claim 1 of the main request did not require the presence of a reflection-enhancing material (17) as distinct from an iridescent amplitude interference material (13). Claim 1 of the main request did not exclude the iridescent amplitude interference material being disposed in both the first and the second areas of the security element. Such an arrangement was explicitly envisaged in claim 12 of the main request.

The layer structure could be identical in the first and second areas. A first area in accordance with features 2, 2a, 2b and 4 to 8 was disclosed with reference to the seven vertical strips on the left- and right-hand side of "Chromagram Type I" as illustrated in the following figure (see also document E2').

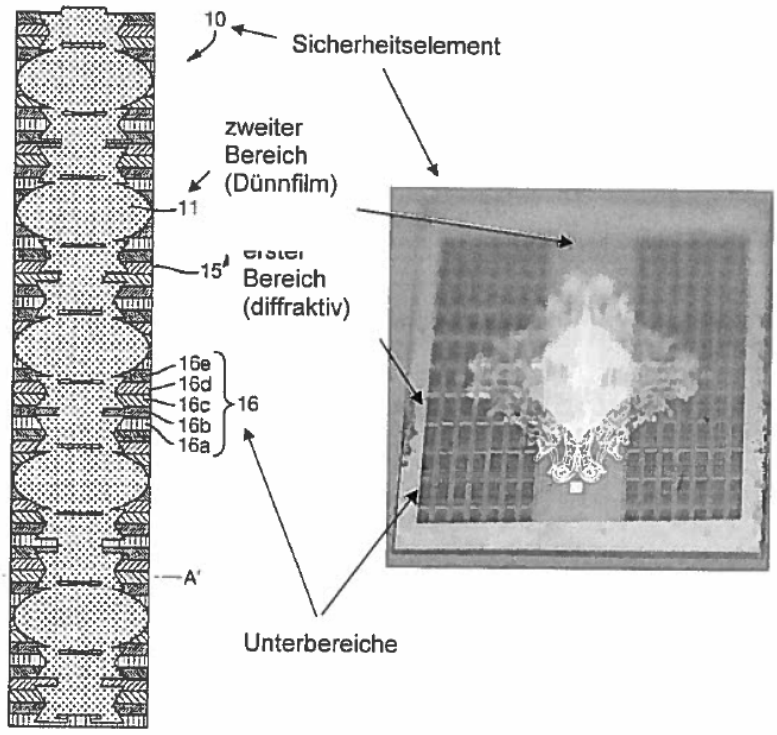

Fig.2(a) des Streitpatents

Chromagram-Type-I aus dem Dokument E2

Features 1, 2, 2a, 2b, 3 and 3a were disclosed in the context of the embodiment shown in Figures 1 and 3 of document E3. On page 15, lines 20 to 23, document E3 explicitly referred to document E4 with respect to the diffractive structure, such that the content of document E4 in this regard could be considered to be incorporated in document E3. The embodiment shown in Figure 6 of document E4 disclosed features 4 to 8.

(ii) *Respondent*

The subject-matter of claim 1 of the main request was new in view of documents D1, D2, E1, E2 and E3.

Document D1 did not disclose that a first optically variable device comprised a reflection-enhancing layer following the contours of the relief structure and additionally an iridescent amplitude interference material. Document D1 disclosed on page 22, lines 25 to 29 that a colour-shifting layer was provided on micro-elements. However, it did not disclose whether the relief structure should in this case comprise a reflection-enhancing layer. Page 6, lines 15 and 16, claim 17, and page 20, lines 10 to 12 of document D1 merely disclosed that the colour-shifting coating was provided in the planar motif area but not where this should be in relation to the diffractive or reflective relief structure, or to what extent this coating was provided in the planar motif region. Page 24, first paragraph and page 22, last paragraph of document D1 could be understood as disclosing that the reflective film was exactly where the colour-shifting coating was located. Page 7, lines 1 to 4 of document D1 was very general and did not pertain to an iridescent amplitude interference material. Case law supported that the skilled person would not have derived a combination of features disclosed in different dependent claims from the claim structure without a direct pointer from the description.

Figures 5 and 6 of document D2 did not disclose feature 8. According to page 16, first paragraph of document D2, an observer could not have resolved the structure of the interlacing in these figures with an unaided eye and would have seen the entire optically

variable surface pattern 10 light up bright red under the first viewing angle and light up bright green under the second viewing angle. This passage referred to both Figures 5 and 6. There was no direct and unambiguous disclosure that the embodiment of Figure 5 had different diffractive colours or reflected intensities that appeared to move from one sub-area to the next. Appellant I had not provided any evidence for its assertion that the strips of Figure 5 of document D2 having a width of 100 µm were visible to the unaided eye. Appellant I's reference to Figures 7 and 8 of document D2 constituted a new line of attack that had been submitted for the first time with appellant I's letter of 27 July 2022 and should not be admitted. The embodiments of Figures 7 to 10 of document D2 did not have any repeat cycle along the predetermined direction, i.e. the movement direction, as required by claim 1 of the main request.

Document E1 did not disclose sub-areas of the diffractive or reflective relief structure arranged in a cyclically repeating sequence along a predetermined direction (see feature 4). Document E1 did not state that the different areas in the embodiment of Figure 4 were identical. Each of those regions could well be unique. The claim required a cyclically repeating sequence along a predetermined direction. It required there to be a repeat of the sequence along its movement direction. Paragraph [0013] of the patent did not justify ignoring this claim requirement. Page 4, lines 15 to 20 of the patent was consistent with the view that at least one repeat in one section was required. Figure 7 of the patent showed a cyclically repeating sequence along the vertical direction which was the predetermined direction specified in features 4 and 8.

Document E2 did not disclose feature 8. As a result of the thin-film stack following the contour of the relief structure and so coupling the effects produced by the two layers, document E2 did not produce the effect specified in feature 8. The claim required tilting of the device to cause the diffractive colours to appear to move from one sub-area to the next. However, the colour shift in document E2 modified the colours as the device was tilted so that one did not have the same diffractive colours once the viewing angle was changed. Appellant II had submitted its view that claim 1 did not require the presence of a reflection-enhancing material as distinct from an iridescent amplitude interference material for the first time during the oral proceedings before the board. This new line of attack should not be admitted and was not well-founded.

On page 15, lines 20 to 23, document E3 did not refer to document E4 (EP 0 105 099 A1) but to EP 0 105 099 B1. Features disclosed in document E4 could not be considered to be incorporated in the embodiments disclosed in document E3 in view of this reference.

(c) *The respondent's main request - Inventive step (Article 56 EPC)*

(i) *Appellants I and II*

The subject-matter of claim 1 of the main request did not involve an inventive step in view of the embodiment shown in Figure 2 of document D3 in combination with one of documents D4, D1, D5, D6, D7 and D8. Document D3 did not disclose features 4 to 8. The objective technical problem had to be formulated as the provision of an alternative solution offering an increased level

of security. The first and the second optically variable devices specified in claim 1 of the main request did not have a synergistic effect. The skilled person knew that the level of security could be increased by providing multiple security features.

Features 4 to 8 were disclosed in view of the sub-areas 32-i, 34-i, 36-i disclosed in Figure 3 and page 16, first paragraph of document D4.

The skilled person would have consulted document D1 because it was concerned with security elements (see page 7, lines 6 to 9, page 11, lines 17 to 20, and page 24, first paragraph of document D1). Document D1 disclosed features 4 to 8 of claim 1 of the main request (see page 11, lines 22 to 25, page 12, lines 5 to 10, page 13, line 24 to page 15, line 2, page 22, lines 1 to 7, and Figures 1, 3, 5A to 5E).

Document D5 was concerned with a security element providing good copy protection (see page 3, lines 17 to 25). Feature 4 was disclosed in view of Figure 2, page 3, lines 27 to 34 and page 6, lines 8 to 15 of document D5. Figure 2 only showed a portion of a security thread. The skilled person would have understood that areas 3, 4, 5 were repeated along the length of the security thread. If there were no repetitions, it would be pure coincidence if these areas were visible through the window. Document D7 (in particular paragraph[0036]) showed that it was known that security elements were periodically repeated on a security thread. The skilled person would have read this feature automatically when reading document D5.

Feature 4 was disclosed in Figure 3 of document D6. Document D6 disclosed the combination of an area having

an achromatic grating and an area having a colour-shifting thin film (see page 11, lines 16 and 17 and page 13, third paragraph of document D6). Since the security element 12 was a security thread (see page 15, lines 4 to 6 of document D6) and since areas 31, 32, 33, 34 and 35 together were only 10 mm long, the skilled person would have understood that these areas were repeated on the security thread. With reference to paragraph [0036] of document D7, a skilled person would have considered it implicit that security elements were repeated periodically on a security thread.

Document D7 concerned security elements (see paragraphs [0001], [0007] and [0009] of document D7). The purpose of every security element was to provide a high level of security. The skilled person would thus have considered document D7. Feature 4 was disclosed in paragraphs [0036], [0091] and [0093] of document D7.

Figure 13 of document D8 disclosed a security element comprising alternating strips A and B producing different colours (see page 19, line 31 to page 20, line 9 of document D8). The grating structures of strips A and B were metallised relief structures (see page 20, lines 10 to 12). The skilled person would have been prompted to combine documents D3 and D8 since document D8 was directed to a security device, for example for use on banknotes, cheques, passports, etc. As disclosed in paragraph [0004] of the patent, there was a constant need in the technical field in hand to stay ahead of would-be counterfeiters by developing new security elements with an increased security level, i.e. which were more difficult to imitate. In view of this constant need, the skilled person would have been prompted to combine documents D3 and D8.

The subject-matter of claim 1 of the main request did not involve an inventive step in view of a combination of documents E3 and E4. Document E3 disclosed features 1, 2, 2a, 2b, 3 and 3a. A combination of documents E3 and E4 was suggested on page 15, lines 20 to 24 of document E3, which referred to document E4. Document E4 disclosed features 4 to 8 (see Figure 6 and page 11, lines 25 to 37, page 6, lines 25 to page 7, line 7 and page 4, lines 6 to 10 and 32 to 34). The structural elements ("*Strukturelemente*") in trajectories B_1 and B_3 or B_2 and B_4 in Figure 6 of document E4 were identical.

The subject-matter of claim 1 of the main request did not involve an inventive step in view of a combination of document E6 and one of documents E1, E2 and E4. Document E6 disclosed features 1, 2, 2a, 2b, 3, 3a and 3b. A movement effect as defined in feature 8 was disclosed on page 14, lines 3 to 7 and in Figures 3 and 4A of document E6. Features 4, 5, 6 and 7 did not achieve the technical effect of increasing protection against counterfeiting, since the optical effect defined in feature 8 was already disclosed on page 14, lines 5 to 7 of document E6. The objective technical problem was to find an alternative way of implementing such a movement effect and a corresponding arrangement of the diffractive structure. The arrangement according to features 4, 5, 6 and 7 was suggested by documents E1, E2 and E4.

The subject-matter of claim 1 of the main request did not involve an inventive step in view of a combination of documents E1 and E6 or a combination of document E2 with the skilled person's common general knowledge or document E6. Document E1 disclosed all the features of claim 1 of the main request except features 3 and 3a.

The objective technical problem was to provide an alternative solution for an increased level of security. Starting from document E2, it would have been obvious to provide reflection-enhancing material on a relief structure in an area where no colour-shifting thin-film stack was present as this was known from the common general knowledge or document E6.

(ii) *Respondent*

The subject-matter of claim 1 of the main request involved an inventive step in view of Figure 2 of document D3 as the closest prior art. Document D3 did not disclose features 4 to 8. The objective technical problem was to enhance the security of the device of document D3.

The movement discussed in document D4 was different to the motion required by claim 1 of the main request. Figures 4 and 5 of document D4 showed the apparent movement of the chevron depicted by the gratings in the vertical direction, whereas the sub-areas were arranged along the horizontal direction. There was no apparent movement in the direction of the cyclically repeating sequence.

Document D1 was concerned with improving the visibility of reflective optically variable elements (see page 2, first paragraph). It did not offer a solution to the problem of increasing the security of the type of device disclosed in document D3. There was nothing in either document to suggest that a cyclically repeating arrangement according to the characterising part of the claim would result in improved security. The teaching in document D1 was not to provide a cyclically repeating arrangement of sub-areas along a

predetermined direction that gave rise to an apparent movement from one sub-area to the next in order to solve the problems with which document D1 was concerned. It was only on page 4, lines 23 to 25 that document D1 stated that there might be an alternating arrangement of light and dark sub-regions. Document D1 would not have led the skilled person to specifically implement this teaching, according to which the sub-areas were repeated, when the overall teaching was only of providing light and dark sub-regions to provide a relatively high contrast between light and dark areas at a particular viewing angle.

A cyclical repeat of the grating parameters was neither described by document D5 nor shown in the figures. Page 3, lines 27 to 34 of document D5 described a repetition of the information carried by one grating field so that a movement of that information was perceived upon tilting. A repeat of a whole movement cycle was not explicitly disclosed in document D5.

The skilled person would not have expected document D6 to provide any teaching as to how to improve the security of the security element of document D3, which did not include achromatic grating images. Document D6 placed no weight on any cyclical repeat of its grating regions. The embodiment of Figure 3 did not disclose that the sub-areas were repeated cyclically. Nor could this be inferred from the alleged length of the security thread of 10 mm. There was not even any disclosure of the direction in which the thread would extend if the example of Figure 3 of document D6 were included as part of a thread. There was no clear teaching in this document of a repeat along the predetermined direction, i.e. the direction along which

the diffractive colours or reflected intensities appeared to move.

Document D7 disclosed that its aim was achieved by a reflective relief structure that did not have any cyclical repeat of relief parameters (see, for example, Figures 8 and 9 of document D7). Document D7 disclosed certain embodiments (for example, in paragraph [0091]) in which an effect was periodically repeated, but there was nothing in document D7 that suggested that this was particularly advantageous for improving security when integrated with a colour-shifting structure. Paragraph [0091] of document D7 merely indicated that the effect might be periodically continued where a thread was used. The periodic repeat achieved the effect that there would always be at least one complete cycle in a window region that revealed the thread. This feature appeared to facilitate manufacture of windowed thread devices, rather than leading to an increase in security.

Document D8 was concerned with lens-based security devices (see abstract) and so did not concern the same types of device as disclosed in document D3. The skilled person would not have expected document D8 to provide anything of relevance to the objective technical problem of increasing the security of the device of document D3, which was constituted by the combination of an iridescent amplitude interference material and an optically variable relief structure. The skilled person would therefore have had no motivation to make any changes to the security element of document D3 based on document D8. Even if the skilled person had consulted document D8, they would not have taken features from the device shown in Figure 13 of document D8 and incorporated them into the

device of document D3. There was nothing in document D8 that suggested to the skilled person that this embodiment would be useful for solving the objective technical problem. The diffractive structure in Figure 13 of document D8 was for providing the interlaced image strips of an image-switching lenticular device. This structure would therefore not have been taken out of the device of document D8 and used as the relief structure of the device of document D3. Even if the skilled person had considered the embodiment of Figure 13 of document D8 to be useful for improving security, they would have adopted the whole device disclosed there, including the lenses for producing a switching effect in combination with the grating image strips. However, in this case, the skilled person would no longer have had a device in which, when the device is tilted, the different diffractive colours or reflected intensities appear to move from one sub-area to the next within each repeat cycle. The lenses would have interrupted any such effect and would have simply displayed either strips A or strips B in the same region, depending on the viewing angle.

The subject-matter of claim 1 of the main request involved an inventive step in view of a combination of documents E3 and E4. Document E3 did not disclose features 4 to 8. The objective technical problem was to improve the security of the security element of document E3. Document E3 did not include a specific reference to the embodiment of Figure 6 of document E4. There was no reason why the skilled person would have selected this specific embodiment for inclusion in document E3 when attempting to solve the objective technical problem of improving the security of a combination of the iridescent amplitude interference

device and a diffractive device in document E3. In the embodiment of Figure 6 of document E4, the complete characterising portion of the claim was not directly and unambiguously disclosed, in particular, it was not disclosed that the sets of orientations and pitches were the same in the parallel tracks. Figure 6 of document E4 did not have any repeat of sub-areas along the movement direction. All repetition was perpendicular to the movement direction in the embodiment of Figure 6 of document E4.

The subject-matter of claim 1 of the main request involved an inventive step in view of document E6 as the closest prior art. Document E6 did not disclose features 4 to 8. As compared to the movement effect disclosed in document E6, a cyclically repeating sequence had the further advantage of providing a stronger directionality, since there was a repeat of the movement effect. Documents E1, E2 and E4 did not suggest the claimed solution.

The subject-matter of claim 1 of the main request involved an inventive step in view of a combination of documents E1 and E6 or document E2 in combination with the common general knowledge or document E6.
Document E1 did not disclose features 4 to 8. The objective technical problem was to increase the level of security. Documents E1 and E6 did not disclose a cyclical repeat as specified in feature 4. The skilled person starting from document E2 would not have removed the thin-film stack since this was presented in document E2 as a major advantage of the Chromagram.

Reasons for the Decision

1. The respondent's main request - Unallowable amendment (Article 123(2) EPC)

Page 24, lines 3 to 6 of the application as filed explicitly refers to the first aspect of the invention: "*However in particularly preferred examples, a diffractive or reflective relief structure as utilised in the first aspect of the invention is provided in order to additionally achieve the benefits already described with reference to the first aspect. Hence, [...]*". The same reference is included in paragraph [0064] of the patent. Appellant II suggests that the skilled person would have read other features disclosed in paragraph [0064] of the patent as also being part of the first aspect of the invention (the description of which starts in paragraph [0007]). However, appellant II has not convincingly shown that this is something that the skilled person would have considered. Moreover, such an interpretation would not be consistent with the passage in paragraph [0064] of the patent which states that "*in particularly preferable examples, a diffractive or reflective relief structure as utilised in the first aspect of the invention is provided*". Nor has appellant II convincingly demonstrated that the skilled person was confronted with subject-matter not disclosed in the application as filed merely because the wording "*[t]he third aspect of the invention further provides [...]*" (see page 24, line 19 of the description as filed) had been replaced by "*[d]isclosed here is [...]*" in paragraph [0065] of the patent.

Consequently, the main request complies with the requirements of Article 123(2) EPC.

2. The respondent's main request - Novelty (Article 54 EPC)

2.1 *Claim 1 - Novelty in view of document D1*

It is under dispute between the parties whether document D1 discloses features 2, 2a and 2b in combination with features 3 and 3a.

Page 20, lines 10 to 12, page 6, lines 15 and 16, and claim 17 of document D1 do not disclose a security element including the combination of a first optically variable device comprising reflection-enhancing material following the contours of a relief structure (features 2 and 2b) and a second optically variable device comprising a colour-shifting coating (features 3 and 3a). It is not unambiguously derivable from these passages whether the colour-shifting coating is provided in addition or as an alternative to a reflection-enhancing material following the contours of a relief structure.

Appellant I refers to page 6, lines 15 and 16 in combination with page 11, lines 22 to 25 of document D1. However, the skilled person would not have read these two passages as referring to the same embodiment but to two different embodiments. Appellant I's submission that both passages concerned the same invention does not imply that the skilled person would have unambiguously and directly derived a combination of features disclosed in the context of different embodiments of the same invention. To assess

novelty, it is not permissible to combine separate items belonging to different embodiments described in one and the same document, unless such combination has specifically been suggested (see "Case Law of the Boards of Appeal of the European Patent Office", 10th Edition, July 2022 (hereinafter referred to as "Case Law"), I.C.4.2). A combination of the cited passages of document D1 was, however, not specifically suggested.

Page 7, lines 1 to 4 of document D1 discloses that the two-dimensional motif area can also have other layers or elements. This passage does not specifically suggest a combination of a reflection-enhancing material following the contours of a relief structure in a first area and a colour-shifting coating in a second area of the same security element.

Nor is this suggested by claims 16 and 17 of document D1. The disclosure of a patent document, such as document D1, does not embrace the combination of individual features claimed in separate dependent claims if such combination is not supported by the description (see Case Law, I.C.4.2). Appellant I has not convincingly shown that the description of document D1 supports the combination of features of claims 16 and 17 of document D1.

Page 24, first paragraph of document D1 discloses that the optically variable element 1 can be combined with other security features. For example, the optically variable element could be equipped ("ausgestattet") with colour-shifting effects. From this passage, it cannot be unambiguously and directly derived that the reflection-enhancing coating is provided in a first area and a colour-shifting coating is provided in a second area. This passage could also mean that the

reflection-enhancing coating is provided in the same area where the colour-shifting coating is located.

Document D1 therefore does not disclose the combination of features 2, 2a, 2b, 3 and 3a. The subject-matter of claim 1 of the main request is thus new over document D1.

2.2 *Claim 1- Novelty in view of document D2*

2.2.1 Regarding feature 8, appellant I refers to Figures 5 and 6 and page 15, lines 22 to 29 of document D2. It is, however, not directly and unambiguously derivable from the embodiments shown in Figures 5 and 6 of document D2 that, when the device is tilted, the different diffractive colours or reflected intensities appear to move from one sub-area to the next within each repeat cycle along the predetermined direction (see feature 8). According to page 15, last paragraph of document D2, both Figures 5 and 6 show a fine interlacing. The skilled person would thus have understood the statement on page 16, first paragraph of document D2 to apply to both embodiments. However, even assuming that the skilled person understood this statement to apply only to the embodiment of Figure 6, feature 8 would not be directly and unambiguously derivable from the embodiment shown in Figure 5 of document D2. Appellant I has not convincingly shown that sub-areas (strips) having a width of 100 µm were visible to the unaided eye and that therefore different diffractive colours would appear to move from one sub-area to the next within each repeat cycle, as specified in feature 8.

Nor is feature 8 unambiguously and directly derivable from page 22, lines 12 to 17 of document D1. The

reference to an apparent colour shift according to the invention ("*erfindungsgemäßer scheinbarer Farbwechsel*") in that passage does not imply that this colour shift involves different colours appearing to move from one sub-area to the next in Figures 5 and 6 of document D2 when the device is tilted.

The embodiments shown in Figures 5 and 6 of document D2 do not disclose feature 8.

2.2.2 The first time that appellant I referred to Figures 7 and 8 of document D2 in the appeal proceedings was in its letter of 27 July 2022. A line of attack based on these figures had not been raised in appellant I's statement of grounds of appeal. The factual allegation that feature 8 was disclosed in the context of the embodiments shown in these figures constitutes an amendment to appellant I's appeal case. This finding is independent of the question whether page 22, lines 12 to 17 of document D2 had been referred to by appellant I in the first-instance opposition proceedings; the cited passage of document D2 does not refer to Figures 7 or 8. Appellant I has not provided reasons for submitting this line of attack at this stage of the appeal proceedings. Moreover, the embodiments of Figures 7 and 8 of document D2 do not disclose a repeat of the cycle along a predetermined direction as required by feature 4, such that this line of attack is *prima facie* not convincing.

The board therefore exercised its discretion under Article 13(1) RPBA and decided not to admit the line of attack based on Figures 7 and 8 of document D2 into the proceedings.

2.2.3 The subject-matter of claim 1 of the main request is new over document D2.

2.3 *Claim 1 - Novelty in view of document E1*

It is under dispute between the parties whether Figure 4 of document E1 discloses feature 4.

Appellant II submits that (sub-)areas 41 to 45 and areas 46 to 49 are mirrored at the centre of the concentric arrangement shown in Figure 4 of document E1 and that areas having the same shading are identical. However, even assuming that this is the case, these areas are not arranged in a cyclically repeating sequence along a predetermined direction (for example a diagonal direction) of the security element as specified in feature 4. Nor is this unambiguously and directly derivable from page 16, line 27 to page 17, line 16 or claims 1, 3, 5 and 9 of document E1.

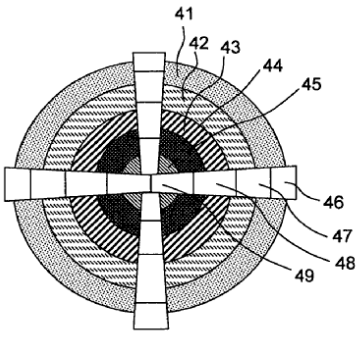

Fig. 4

Appellant II's reference to paragraph [0013] of the patent does not alter this conclusion. Even if claim 1 of the main request covers embodiments in which the "predetermined direction" defined in feature 4 is different (or even opposite) in different sections of the first area, feature 4 still requires that (for

example, within one section) the plurality of sub-areas are arranged in a cyclically repeating sequence along the predetermined direction. However, no such arrangement is disclosed in the embodiment shown in Figure 4 of document E1.

Page 4, lines 15 to 20 of the patent is consistent with this claim interpretation as it specifies that there are one or more cyclical repeats within one section. The skilled person understands from this that the sequence of sub-areas must show at least one cyclical repeat within one section, i.e. that a sequence which is not repeated at least once within a section is not covered by claim 1 of the main request.

Figure 7 of the patent shows a sequence of sub-areas which is cyclically repeated in a predetermined direction (the vertical direction), which is consistent with feature 4. The question whether Figure 7 shows a further symmetry of sub-areas and whether the cyclically repeating sequence of sub-areas can, in turn, be considered the result of (cyclically or non-cyclically) repeating sub-sequences of sub-areas is not relevant to the issue in hand.

Document E1 does not disclose feature 4 of claim 1 of the main request, such that the subject-matter of that claim is new over document E1.

2.4 *Claim 1 - Novelty in view of document E2*

It is under dispute between the parties whether feature 8 was disclosed by "Chromagram Type I" and "Chromagram Type II", both of which are affixed to page 352 of document E2.

The wording of claim 1 of the main request requires the presence of two optically variable devices (see features 2 and 3). An interpretation in which one device is considered simultaneously to be both the first and the second optically variable device is therefore not possible. For this reason, the line of attack submitted by appellant II for the first time at the oral proceedings before the board, based on the view that claim 1 of the main request did not require the presence of a reflection-enhancing material (17) as distinct from an iridescent amplitude interference material (13) is not convincing. The question of whether it can be admitted into the proceedings can be left open. Claim 1 does not, however, exclude the structures of the first and a second optically variable device being identical.

Regarding the first area specified in features 2, 2a, 2b and 4 to 8, appellant II refers to the seven vertical strips on the left- and right-hand sides of "Chromagram Type I".

Feature 8 specifies that, when the device is tilted, the different diffractive colours or reflected intensities appear to move from one sub-area to the next within each repeat cycle along the predetermined direction. The skilled person understands from claim 1 of the main request as a whole (see, in particular "whereby" in feature 7) that the diffractive colours or reflected intensities refer to the diffractive or reflective relief structure specified in feature 2a.

It is not possible from merely observing "Chromagram Type I" on page 352 of document E2 to derive unambiguously and directly that the colours that appear to move within the vertical strips are diffractive

colours as specified in feature 8, i.e. that the optical effect is caused by a diffractive relief structure. Nor does this follow from document E2'. From appellant II's submissions, it cannot be excluded, for example, that the colour-shifting coating (ISIS) in document E2 modifies the colours that appear to move when the device is tilted.

Claim 12 of the main request does not justify a broader interpretation of claim 1. Claim 12 specifies that the iridescent amplitude interference material can be disposed in both the first and second areas of the element. However, according to claim 12, in these embodiments, the iridescent amplitude interference material is substantially concealed in the first area of the element by light diffracted or reflected from the diffractive or reflective relief structure. In other words, even if there is iridescent amplitude interference material in the first area, the effect specified in feature 8 is still due to diffraction at the diffractive relief structure. For "Chromagram Type I", however, appellant II has not convincingly shown that the colours that appear to move from one sub-area to the next when the device is tilted are diffractive colours as specified by feature 8. Nor has appellant II convincingly shown that feature 8 was disclosed by "Chromagram Type II".

The security element according to claim 1 of the main request is thus new in view of document E2.

2.5 *Claim 1 - Novelty in view of document E3*

Regarding features 4 to 8, appellant II submits that page 15, lines 20 to 23 of document E3 explicitly referred to document E4 with respect to the diffractive

structure, such that the contents of document E4 in this regard could be considered to have been incorporated in document E3. Features 4 to 8 were disclosed in Figure 6 of document E4.

On page 15, lines 20 to 23, document E3 refers to EP 0 105 099 B1 and EP 0 375 833 B1. This passage, however, does not contain any reference to document E4 (EP 0 105 099 A1). It is therefore not possible to derive directly and unambiguously from this passage a combination of features disclosed in Figure 1 of document E3 and features disclosed in document E4.

The subject-matter of claim 1 of the main request is thus new over document E3.

2.6 *Conclusion as to novelty*

The subject-matter of claim 1 of the main request is new (Article 54 EPC).

3. The respondent's main request - Inventive step (Article 56 EPC)

3.1 *Claim 1 - Inventive step in view of document D3 as the closest prior art*

Appellant I submits that the subject-matter of claim 1 of the main request does not involve an inventive step in view of the embodiment shown in Figure 2 of document D3 in combination with one of documents D4, D1, D5, D6, D7 and D8. It is common ground between the parties that document D3 does not disclose features 4 to 8.

Appellant I submits that the objective technical problem has to be formulated as the provision of an alternative solution offering an increased level of security. No explanation or support for this view was offered. The respondent considers the objective technical problem to be to enhance the security of the device of document D3. This view is consistent with appellant I's submission that the skilled person knew that the level of security could be increased by providing multiple security features. The board considers the formulation of the objective technical problem suggested by the respondent to be appropriate.

Document D4

Regarding features 4 to 8, appellant I refers to page 16, first paragraph and Figure 3 of document D4. It considers sub-areas 32-i, 34-i, 36-i to be sub-areas in the sense of features 4 to 8.

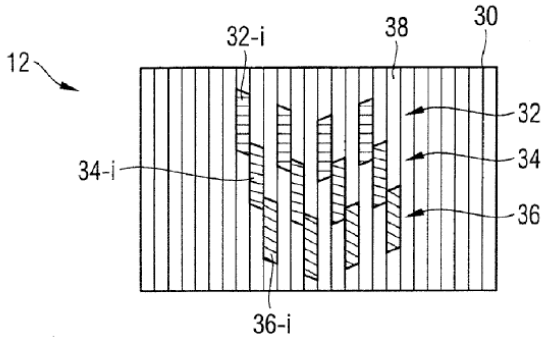

Fig. 3

Figure 3 of document D4, however, does not disclose a first optically variable device constituted by sub-areas 32-i, 34-i, 36-i arranged in a cyclically repeating sequence along a predetermined direction of the security element. Sub-areas 32-i, 34-i and 36-i are not arranged in a cyclically repeating sequence in the

vertical direction in Figure 3. It is not derivable from the cited passages that sub-area 32-i is part of a sequence of multiple sub-areas that is cyclically repeated in the vertical direction. The same holds true for sub-areas 34-i and 36-i. Feature 4 is thus not disclosed in document D4.

It follows that the subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents D3 and D4.

Document D1

To determine whether the claimed invention would have been obvious to the skilled person starting from the closest prior art and the objective technical problem, the boards apply the "*could-would approach*" (see Case Law, I.D.5.). The relevant question to be asked is not whether the skilled person could have carried out the invention, but whether they would have done so in the expectation of solving the underlying technical problem or in the expectation of some improvement or advantage. When considering whether or not claimed subject-matter constitutes an obvious solution to an objective technical problem, the question to be answered is whether or not the skilled person, in the expectation of solving the problem, would have modified the teaching in the closest prior art document in the light of other teachings in the prior art so as to arrive at the claimed invention.

Document D1 is concerned with security elements (see page 7, lines 6 to 9, page 11, lines 17 to 20 and page 24, first paragraph of document D1). However, it does not address the above objective technical problem or provide a solution to this problem.

Appellant I submits that the skilled person knew that the level of security could be increased by providing multiple security features. Even if this were correct, said person would still not be prompted to combine the security element shown in Figure 2 of document D3 with features of the optically variable element shown in Figure 3 of document D1. Document D1 does not disclose or suggest the arrangement of micro-mirrors 5_1 to 5_5 shown in Figure 3 of document D1 as a solution to the above objective technical problem. Nor was this suggested on page 11, lines 22 to 25, page 12, lines 5 to 10, page 13, line 24 to page 15, line 2, page 22, lines 1 to 7 or Figures 1 or 5A to 5E of document D1. The skilled person, in the expectation of solving the above objective technical problem, would not have been prompted to modify the teaching in document D3 in the light of document D1 so as to arrive at the claimed invention.

Document D1 does not attribute a particular technical benefit to the cyclically repeating arrangement of micro-mirrors shown in Figure 3 as compared to other embodiments disclosed in that document. The skilled person would thus have understood that this arrangement is one of several solutions to the technical problem of providing an optically variable element with a two-dimensional motif area with a first motif that is still visible with very good contrast at a larger spatial angle (see page 2, first paragraph of document D1). However, appellant I has not convincingly shown that this is a technical problem that arises for the relief structure of the security element shown in Figure 2 of document D3, which is configured to provide a hologram (see page 12, last paragraph of document D3).

Thus, the subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents D3 and D1.

Document D5

Regarding feature 4, appellant I refers to Figure 2, page 3, lines 27 to 34 and page 6, lines 8 to 15 of document D5. However, from these passages, it is not unambiguously and directly derivable that the security device is constituted by a plurality of sub-areas arranged in a cyclically repeating sequence along a predetermined direction of the security element (see feature 4). It is not unambiguously derivable that areas 3, 4, 5 shown in Figure 2 are cyclically repeated. Nor does this follow from page 3, lines 27 to 34 of document D5. This passage refers to a repetition of information, but this does not imply that the security device is constituted by a plurality of sub-areas arranged in a cyclically repeating sequence. Page 6, lines 8 to 15 of document D5 discloses that two light points appeared to move toward or away from each other. However, it cannot be unambiguously derived from this passage that areas 3, 4, 5 are arranged in a cyclically repeating sequence.

Nor is this implicitly disclosed in document D5. An alleged disclosure can only be considered "implicit" if it is immediately apparent to the skilled person that nothing other than the alleged implicit feature forms part of the subject-matter disclosed (see Case Law, I.C.4.3). Even assuming that the security thread shown in Figure 2 of document D5 continues on the left and right, and further assuming that it shows additional points of light that appear to move when the thread is tilted, this does not necessarily imply that areas 3, 4

and 5 are arranged in a cyclically repeating sequence. For example, areas different from areas 3, 4 and 5 could be provided on the security thread to the left and right of the portion shown in Figure 2.

Paragraph [0036] of document D7 describes a specific embodiment. Nothing suggests that this specific embodiment belongs to the common general knowledge or, more importantly, that the skilled person had the perception that each and every security thread necessarily comprises a plurality of sub-areas arranged in a cyclically repeating sequence along a predetermined direction. The skilled person would not unambiguously have inferred that features disclosed in the context of this specific embodiment of document D7 are provided in the context of the embodiment shown in Figure 2 of document D5.

Feature 4 is not disclosed in document D5. The subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents D3 and D5.

Document D6

Regarding feature 4, appellant I refers to Figure 3 of document D6 and submits that, since security element 12 was a security thread and areas 31, 32, 33, 34 and 35 together were only 10 mm long, the skilled person would have understood that these areas were repeated on the security thread.

However, document D6 does not disclose if or how the structure shown in Figure 3 extends to the left or right. Even assuming that it extends further to the left or right, this does not necessarily involve a

cyclically repeating sequence of the sub-areas 31 to 35. Feature 4 is therefore neither explicitly nor implicitly disclosed in the context of the embodiment shown in Figure 3 of document D6. As explained above in point 2.3, this also holds true for the embodiment shown in Figure 4 of document D6. Moreover, for the same reasons set out above with respect to document D5, the skilled person would not have understood features disclosed in the context of the specific embodiment disclosed in paragraph [0036] of document D7 to be implicitly present in the context of embodiments of document D6.

Page 15, lines 4 to 6 of document D6 discloses that both security elements 12, 16 are equipped with grating images of the kind described thereafter. However, this passage does not disclose that the security thread 12 includes multiple grating images containing identical sequences of grating areas that are repeated cyclically.

Consequently, feature 4 is not disclosed in document D6. It follows that the subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents D3 and D6.

Document D7

Appellant I submits that feature 4 was disclosed in paragraphs [0036], [0091] and [0093] of document D7.

These passages, however, do not suggest that providing a plurality of sub-areas arranged in a cyclically repeating sequence along a predetermined direction is a solution to the objective technical problem.

In paragraph [0091], document D7 suggests a periodic repetition of "effects" on a security thread in view of an arrangement in which the security thread is visible only in window regions of a banknote. For example, with a repeat cycle of 5 mm and a window height of 10 mm, the "effect" could always be perceived at least twice. The skilled person understands that the "effect" discussed in this paragraph is the "rolling bar" effect disclosed in paragraph [0090] of document D7. The security element of document D3, however, does not only comprise areas in which a relief structure is present, but also areas showing a colour-shift effect (see, for example, Figure 2). Hence, even if the "rolling bar" effect were repeated at a 5 mm interval, it would not be certain that the effect could be perceived at least twice within a 10 mm window of the banknote. The technical problem that document D7 tries to solve by providing a periodically repeated rolling bar effect would thus not be solved if this feature were implemented in the device of Figure 2 of document D3.

Paragraphs [0036] and [0091] of document D7 disclose that a plurality of "such effects" are repeated periodically. Appellant I has not convincingly shown that a repeating "effect" necessarily involves a plurality of sub-areas arranged in a cyclically repeating sequence along a predetermined direction, which direction is the same as the direction of the movement effects. Nor is this derivable from paragraph [0093] of document D7. Feature 4 is thus not disclosed in document D7.

The subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents D3 and D7.

Document D8

Document D8 is concerned with lenticular devices, which are technically different from the device shown in Figure 2 of document D3. The repetition of "A" and "B" in Figure 13 of document D8 does not imply that the same sub-areas are arranged in a cyclically repeating sequence. The image strips "A" are strips that together form an image "A" and the image strips "B" are strips that together form an image "B". Depending on the viewing angle, either image "A" or image "B" is visible. While the image strips are all labelled "A" and "B", the different strips labelled "A" are different segments or slices of the image "A" (see, for example, page 1, line 19 to page 2, line 9 of document D8). Hence, feature 4 is not disclosed in document D8.

Moreover, the functioning of the lenticular device in document D8 is linked to the presence of lenses. The skilled person had no motivation to isolate and excise the image strips from Figure 13 of document D8 and implement them in the device of document D3. Document D8 does not suggest that providing slices of images "A" and "B" in an interlaced manner as shown in Figure 13 solves the above objective technical problem.

The skilled person, even if consulting document D8, would not have arrived at the subject-matter of claim 1 of the main request in an obvious manner when starting from document D3 and trying to solve the above objective technical problem.

3.2 *Claim 1 - Inventive step in view of document E3 as the closest prior art*

Appellants I and II submit that the subject-matter of claim 1 of the main request does not involve an inventive step in view of a combination of documents E3 and E4. Document E3 disclosed features 1, 2, 2a, 2b, 3 and 3a. A combination of documents E3 and E4 was suggested on page 15, lines 20 to 24 of document E3 which referred to document E4. Document E4 disclosed features 4 to 8 (see Figure 6 and page 11, lines 25 to 37, page 6, line 25 to page 7, line 7 and page 4, lines 6 to 10 and 32 to 34). The structural elements ("*Strukturelemente*") in trajectories B_1 and B_3 or B_2 and B_4 shown in Figure 6 of document E4 were identical.

However, even assuming that they were identical, this would imply that the structure is repeated in a vertical direction in Figure 6 of document E4. The colour patterns in document E4, however, appear to move along the trajectories B_i (see paragraph bridging pages 4 and 5 of document E4), i.e. in the horizontal direction in Figure 6 of document E4. In contrast, features 4 and 8 of claim 1 of the main request refer to the same predetermined direction. Hence, Figure 6 of document E4 does not disclose the combination of features 4 and 8. This also holds true if it is understood that the predetermined direction can be different in different sections, where each section includes at least one cyclical repeat of the sub-areas. Nor do page 11, lines 25 to 37, page 6, line 25 to page 7, line 7 and page 4, lines 6 to 10 and 32 to 34 of document E4 disclose the combination of features 4 and 8.

Thus, the subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents E3 and E4.

3.3 *Claim 1 – Inventive step in view of document E6 as the closest prior art*

It is undisputed between the parties that document E6 does not disclose features 4, 5, 6 and 7.

Nor does document E6 disclose feature 8 (or the effect defined by this feature). According to feature 8, the different diffractive colours or reflected intensities appear to move from one sub-area to the next within each repeat cycle along the predetermined direction when the device is tilted. Page 9, lines 32 to 36 of document E6 merely discloses that "*[i]n some examples each region may define one or more of a crest, logo, character or indicia, or a, preferably elongate, shape through which moving patterns of diffractive light progress*". Similarly, page 14, lines 5 to 7 of document E6 discloses that areas 10 to 12 "*may be crests, logos, characters or elongated shapes through which moving patterns of diffracted light could progress*". However, these passages do not imply the presence of repeat cycles, let alone a movement effect within each repeat cycle as required by feature 8.

Hence, features 4 to 8 are not disclosed in document E6.

The technical effect achieved in view of features 4 to 8 differs from that caused by "moving patterns" disclosed on page 14, lines 5 to 7 of document E6 in that, due to the cyclical repetition of the sequence of sub-areas, multiple moving effects are visible at the

same time. This achieves the technical effect of increasing the difficulty of producing a counterfeit version of the element (see also paragraph [0010], last sentence of the patent). The objective technical problem is therefore to improve the security of the security element of document E6.

Document E1 does not disclose feature 4 (see point 2.3 above). Document E2 does not disclose feature 8 (see point 2.4 above). Document E4 does not disclose features 4 and 8 (see point 3.2 above). Consequently, even considering a combination of document E6 with any of documents E1, E2 and E4, claim 1 of the main request includes at least one feature that is not disclosed by either document of such a combination. Appellant II has not convincingly demonstrated that the skilled person would nevertheless have arrived at the claimed solution in an obvious manner.

Consequently, the subject-matter of claim 1 of the main request involves an inventive step in view of a combination of documents E6 and E1, E2 or E4.

3.4 *Claim 1 - Inventive step in view of a combination of documents E1 and E6*

Appellant II submits that the subject-matter of claim 1 of the main request does not involve an inventive step in view of a combination of documents E1 and E6. This objection is based on appellant II's assumption that document E1 discloses all the features of claim 1 of the main request except features 3 and 3a. However, as set out above (see point 2.3), document E1 fails to disclose feature 4. Even if the skilled person starting from document E1 had been prompted by document E6 to implement features 3 and 3a, this would not have led

them to the subject-matter of claim 1 of the main request in an obvious manner.

3.5 *Claim 1 - Inventive step in view of a combination of document E2 and the common general knowledge or document E6*

As set out above in point 2.4, feature 8 is not disclosed in document E2. Appellant II submits that it was known from the common general knowledge or document E6 that reflection-enhancing material could be provided on a relief structure in an area where no colour-shifting thin-film stack was present.

However, even if this were true, this knowledge in itself would not imply that such a course of action would have suggested itself to the skilled person. In accordance with the "*could-would approach*" (see also additional explanations in point 3.1 above), the relevant question to be asked is not whether the skilled person could have carried out the invention, but whether they would have done so in the expectation of solving the underlying technical problem or in the expectation of some improvement or advantage. Appellant II has not convincingly shown that there was any motivation from the common general knowledge or document E6 that would have prompted the skilled person to provide the vertical strips of the Chromagrams (or cyclically repeating sub-areas of these strips) of document E2 without a colour-shifting thin film.

While document E6 may potentially have suggested adding a further region to the Chromagram that defines a crest, logo, character or indicia, or a shape through which moving patterns of diffractive light progress (see, for example, page 14, lines 3 to 8 of

document E6), such region would not be a first area as further specified by features 4 to 8 (see also point 3.3 above).

The subject-matter of claim 1 of the main request involves an inventive step in view of a combination of document E2 and the common general knowledge or document E6.

3.6 *Conclusion as to inventive step*

The subject-matter of claim 1 of the main request involves an inventive step (Article 56 EPC).

4. The respondent's main request - Dependent claims

Due to their references to claim 1, dependent claims 2 to 18 of the main request include all the features of claim 1. The subject-matter of these claims is thus new and involves an inventive step at least for the reasons set out above with respect to claim 1 of the main request.

5. Conclusions

Appellants I and II have not established that the patent as amended on the basis of the main request and the invention to which it relates fail to meet the requirements of the EPC. The appeals therefore have to be dismissed.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar: The Chairman:

N. Schneider O. Randl

Decision electronically authenticated