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**Datasheet for the decision  
of 9 May 2025**

**Case Number:** T 0875/23 - 3.2.05

**Application Number:** 15738425.6

**Publication Number:** 3166798

**IPC:** B42D25/324, B42D25/351,  
B42D25/373, B42D25/387,  
B42D25/425, B42D25/45

**Language of the proceedings:** EN

**Title of invention:**  
Improvements in and relating to security documents

**Patent Proprietor:**  
Security Fibres UK Limited

**Opponents:**  
Oberthur Fiduciaire SAS  
VHP Security Paper B.V.

**Relevant legal provisions:**  
EPC Art. 54, 56, 100(a)  
RPBA 2020 Art. 13(2)

**Keyword:**

Grounds for opposition - lack of novelty (no) - lack of  
inventive step (no)

Amendment after summons - exceptional circumstances (no) -  
taken into account (no)



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Case Number: T 0875/23 - 3.2.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.05**  
**of 9 May 2025**

**Appellants:**

(Joint Opponents)

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted on 3 April 2023  
rejecting the opposition filed against European  
patent No. 3 166 798 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairman**            P. Lanz  
**Members:**            M. Holz  
                             F. Blumer

## Summary of Facts and Submissions

- I. The joint opponents (appellants) filed an appeal against the opposition division's decision to reject the opposition against European patent No. 3 166 798 (the patent).
- II. The patent proprietor (respondent) filed a reply to the appellants' statement of grounds of appeal including claim sets of auxiliary requests 1 to 13.
- III. By letters dated 17 June 2024 and 16 September 2024, the appellants filed further submissions.
- IV. By letter dated 26 June 2024, the respondent filed further submissions.
- V. On 15 November 2024, the board issued a communication under Article 15(1) RPBA providing, *inter alia*, the following preliminary opinion.
  - The subject-matter of claims 1, 11 and 12 as granted was novel in view of any of documents D1 and D12, and therefore the ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC did not prejudice the maintenance of the patent as granted.
  - The subject-matter of claims 1, 11 and 12 as granted involved an inventive step in view of document D1, and therefore the ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC did not prejudice the maintenance of the patent as granted.

VI. Oral proceedings before the board were held on 9 May 2025.

VII. **Final requests**

The appellants requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the appeal be dismissed, i.e. that the patent be maintained as granted (main request) or, in the alternative, that the decision under appeal be set aside and the patent be maintained as amended on the basis of the claim set of one of auxiliary requests 1 to 13 filed with the respondent's reply. The respondent also requested that the submissions in the appellants' letter dated 17 June 2024 not be admitted in the appeal proceedings.

VIII. The following documents cited in this decision were submitted during the opposition proceedings.

D1: WO 2011/060910 A1

D12: US 3,887,742

IX. Claim 1 of the patent as granted reads (the feature numbering used by the board is included in square brackets):

*"[1.1] A security device (10) for a security document, the device comprising [1.2] a substrate (20) having a face (30), the face including a plurality of first walls (50), each first wall (50) being orientated in a first direction and a plurality of second walls (60), each second wall (60) being orientated in a second, different direction, at an angle to the first direction, [1.3] wherein there is a first layer of*

*material (70) on each of the plurality of first walls (50) or each of the plurality of second walls (60) or each of both the plurality of first walls (50) and the plurality of second walls (60), characterised in that [1.4] the device (10) is substantially invisible in visible light."*

Claim 3 of the patent as granted reads:

*"A security device as claimed in claim 1 or claim 2, in which the substrate is the security document."*

Claim 5 of the patent as granted reads:

*"A security device as claimed [sic] in any preceding claims, wherein the first layer is a metalized [sic] layer, a resist layer, a patterned layer or a fluorescent layer."*

Claim 11 of the patent as granted reads:

*"A security document including a security device in accordance with any preceding claim, and optionally wherein the security document is a bank note."*

Claim 12 of the patent as granted reads:

*"[12.1] A method of producing a security device (10) for a security document, the method comprising the steps of*

*[12.2] (i) providing a security material having a front side and a back side and comprising a first layer (70),*

*[12.3] (ii) forming a plurality of indentations in the security material, each indentation having a first wall (50) and a second wall (60), each wall (50,60) having a front face on the front of the device, the*

*front face of the first wall (50) being orientated in a first direction and comprising material from the first layer (70) and the front face of the second wall (60) being orientated in a second, different, direction, and characterized in that [12.4] the device (10) is substantially invisible in visible light."*

X. The parties made the following submissions.

(a) *Late-filed submissions*

(i) *Appellants*

The submissions in the appellants' letter dated 17 June 2024 should be taken into account in the appeal proceedings since they further developed previously submitted arguments and addressed issues raised in the respondent's reply.

Even if it were accepted that the film 16 shown in Figure 3 of document D12 was implemented as a coloured plastic material, it would be substantially invisible in visible light of the same colour. This was a new argument that was first presented at the oral proceedings before the board. However, it further developed previously submitted arguments. The board had referred to the possibility of a coloured film for the first time in its communication under Article 15(1) RPBA. The factual assertion should thus be admitted in the appeal proceedings.

The subject-matter of claims 1, 11 and 12 of the patent as granted did not involve an inventive step in view of the embodiment shown in Figure 3 of document D12 in combination with column 4, lines 42 to 48, of document D12. Starting from Figure 3 of document D12,

the skilled person would have combined the device shown in the figure with a colourless transparent material. There were only two alternatives disclosed in column 4, lines 42 to 48, of document D12: either the plastic film 16 was coloured, or it was clear and a coloured adhesive was used. Selecting one of these two alternatives would have been obvious to the skilled person. This objection of lack of inventive step was based on the same passages of document D12 that had been discussed with respect to the objection of lack of novelty in view of this document. It should be admitted in the appeal proceedings.

(ii) *Respondent*

The submissions in the appellants' letter dated 17 June 2024 should not be admitted in the appeal proceedings since they had been filed late.

The appellants' factual assertion that if the film 16 shown in Figure 3 of document D12 were implemented as a coloured plastic material, it would be substantially invisible in visible light of the same colour, was submitted for the first time at a late stage of the oral proceedings before the board. It should not be admitted under Article 13(2) RPBA. The construction of claim 1 of the patent as granted had been under discussion since the start of the opposition proceedings. In the event that the new factual assertion was admitted and the board considered it to be relevant, it was requested that the respondent be given time to consider the new factual assertion.

The objection of lack of inventive step in view of document D12 raised by the appellants at the oral proceedings before the board was an amendment to the

appellants' appeal case. It should not be admitted under Article 13(2) RPBA. At the oral proceedings before the opposition division, the appellants submitted that they had no other inventive-step objection than that in view of document D1.

(b) *Interpretation of claims 1 and 12 as granted in view of features 1.4 and 12.4*

(i) *Appellants*

Features 1.4 and 12.4 specified that the security device was substantially invisible under at least one visible light condition. Construing these features to mean that the device was invisible under all visible light conditions was not consistent with the patent as a whole and the common general knowledge. Claim 3 of the patent as granted specified that the substrate was the security document. Security documents such as those defined in paragraph [0002] of the patent as granted had the common feature of being visible under visible light. Feature 1.4 was so vague and unclear that it should be interpreted broadly.

(ii) *Respondent*

The skilled person would have understood the term "substantially" used in features 1.4 and 12.4 to mean that the device had to be invisible in visible light but any departure from absolute invisibility that was insignificant in the eyes of the skilled person was also encompassed. These features had the normal meaning that the device was substantially invisible under all visible light conditions. The interpretation that these features required the device to be substantially invisible under at least one visible light condition

was incompatible with the language of claims 1 and 12 of the patent as granted. In the absence of any further qualifier as to the invisibility, the skilled person would not have inferred any limitation on that invisibility. The description should not be considered when interpreting these features of claims 1 and 12 of the patent as granted because these claims were clear in and of themselves. The description of the patent was not in strict conformity with the claims, in line with EPO practice at the date of grant. It would have been clear to the skilled person that there was an inconsistency between the description and the claims. The skilled person would not have reinterpreted the claims in relation to whether or not an embodiment was explicitly disclaimed. Regarding claim 3 of the patent as granted, the portion of the security document that formed the substrate of the security device could be a transparent and colourless window portion of the security document. Claim 5 of the patent as granted specified, *inter alia*, that the first layer could be a metallised layer. The skilled person would have immediately realised that this was an error given its incompatibility with claim 1 of the patent as granted. However, if the interpretation of feature 1.4 were accepted, i.e. that the security device was substantially invisible under at least one visible light condition, claim 5 of the patent as granted would not be in conflict with feature 1.4. Whether an observer could see a metallised layer depended on the layer's thickness. According to page 23, line 9, to page 24, line 14, of document D1, a metal layer could even be so thin as to be transparent. The difference between the metallised layer in the prior art and the metallised layer of claim 5 of the patent as granted was that the patent explicitly required the security device to be substantially invisible in visible light

(see feature 1.4). This feature was not stated in the cited prior art. The cited prior art did not exclude the possibility of the layer being thick enough to be seen.

*(c) Ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC*

*(i) Appellants*

The subject-matter of claims 1, 11 and 12 as granted was not novel in view of any of documents D1 and D12.

Regarding features 1.4 and 12.4, the patent covered at least one embodiment in which the substrate was visible in visible light. Figure 2a of document D1 was extremely similar to Figure 2 of the patent. A security device with feature 1.4 was disclosed in the paragraph bridging pages 20 and 21 and on page 19, lines 22 to 24, of document D1. Claims 1, 11 and 12 as granted did not include any limitations regarding the dimensions or the materials used. The skilled person would have regarded the combination of the substrate 20, the sawtooth structure 22 and the lamellae 24 shown in Figure 2a of document D1, i.e. without the motif image 30, as constituting a security device. This combination of elements rendered the motif image 30 visible under some angles of observation and invisible under others and thus imparted security on the motif image 30. Claim 1 of the patent as granted did not provide any definition of the expressions "security device" or "security document". These terms had to be construed broadly. The motif image 30 could be considered a security document.

Features 1.4 and 12.4 were disclosed in column 7, line 45, to column 8, line 2, and Figure 3 of document D12. The structure shown in Figure 2 of the patent as granted was similar to the one shown in Figure 3 of document D12. When the observer was far enough away from the device, they would no longer be able to discern the end lines of the black or reflective surfaces 24 shown in Figure 3 of document D12 with an unaided eye. Document D12 did not rule out the possibility that the substrate was transparent. Column 4, lines 33 to 50, of document D12 also envisaged that the plastic material was not coloured. If it was accepted that the optical effect defined in feature 1.4 could be obtained by using a metallised first layer, as stated in claim 5 of the patent as granted, it must also be concluded that the black or reflective sloping surfaces 24 of document D12 were substantially invisible.

(ii) *Respondent*

The subject-matter of claims 1, 11 and 12 as granted was novel in view of any of documents D1 and D12. Neither document disclosed, *inter alia*, features 1.4 and 12.4.

The security element 12 shown in Figure 2a of document D1 was clearly visible from viewpoints B and C. This was the only security device unambiguously and directly disclosed in this context. It included the motif image 30. Page 2, line 18, to page 3, line 6, of document D1 also emphasised that the motif image played an important role for the operation of the security element.

Regarding document D12, the skilled person would have understood the visibility and/or invisibility of features as being at the normal distances relevant for authenticating security documents using these kinds of security devices. Column 4, lines 33 to 50, of document D12 disclosed that the transparent film serving as the substrate of a device could be coloured (for example orange) without impairing the readability of the document underneath the device. Thus, document D12 contemplated coloured transparent materials. Document D12 did not unambiguously and directly disclose that the device shown in Figure 3 of document D12 was substantially invisible in visible light. This could not be unambiguously inferred from the statement in document D12 that the document (for example document 28 in Figure 3) was easily readable. It could not be ruled out that the transparent plastic material 16/18 was coloured. Moreover, column 7, lines 25 to 30, of document D12 stated that when document 14 was viewed at an angle of 60° to its plane, as in normal reading and as indicated by the arrows A in Figure 2, planes 12 appeared as end lines. Hence, even under these viewing conditions, the device was not substantially invisible.

(d) *Ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC*

(i) *Appellants*

The subject-matter of claims 1, 11 and 12 of the patent as granted did not involve an inventive step in view of document D1 when starting from Figure 2 of this document. Many passages of document D1 described the security element as being transparent, i.e. invisible, for example the last paragraph on page 4, the first

paragraph on page 5, the third paragraph on page 7 and the first three paragraphs on page 18. The paragraph bridging pages 18 and 19 of document D1 stated that transparent/invisible security features were highly resistant to tampering. Page 24, lines 19 to 21, of document D1 suggested removing the motif image.

(ii) *Respondent*

The subject-matter of claims 1, 11 and 12 of the patent as granted involved an inventive step in view of document D1. The objective technical problem could be formulated as how to provide a security device that increased the burden on counterfeiters. There was no explicit disclosure anywhere in document D1 of a device that was substantially invisible in visible light. Nor was there any suggestion that removing the motif image 30 from the device shown in Figure 2 would solve the objective technical problem. The motif image 30 was essential for the device of Figure 2 to provide the described angle-dependent viewing effect. The motif image 30, 86, 146, 166 was present in all embodiments of document D1. Indeed, it was at the core of the invention described in document D1; see the abstract, claim 1 and page 2, lines 18 to 23. Page 24, lines 19 to 21, of document D1 referred to the described process (i.e. the etching process) being independent of the motif image 30. This was a comment on the versatility of the process; it was not teaching or a prompt to remove the motif image 30 and to not replace it with another element that was visible in visible light. The skilled person would not have removed the motif image 30 without replacing it with some other visible element. This would have been contrary to the teaching of document D1.

## **Reasons for the Decision**

### **1. Late-filed submissions**

#### **1.1** *Submissions in the appellants' letter dated 17 June 2024*

The submissions in the appellants' letter dated 17 June 2024 are aimed at refining and further developing the arguments already presented with the statement of grounds of appeal and at countering the arguments made by the respondent in this context. They do not amount to an amendment of the appellants' case (see also "Case Law of the Boards of Appeal of the European Patent Office", 10th edition, July 2022 (Case Law), V.A.4.2.2m)). The board therefore considered these submissions in this decision.

#### **1.2** *Factual assertion submitted by the appellants regarding the visibility of a coloured film under visible light of the same colour*

During the oral proceedings before the board, the appellants submitted the following factual assertion to support its view that the subject-matter of claims 1, 11 and 12 of the patent as granted was not novel in view of document D12: even if it were accepted that the film 16 shown in Figure 3 of document D12 was implemented as a coloured plastic material, it would be substantially invisible in visible light of the same colour.

This submission is not an argument that further develops previously submitted arguments. Instead, the

appellants are submitting a technical feature of the film 16 that is, in their view, implicitly disclosed in document D12. This technical feature is based on an alleged optical effect that the film 16 shows up under visible light of a certain colour. The appellants' submission is therefore a new factual assertion that represents an amendment to the appellants' appeal case.

In accordance with Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15(1) RPBA is, in principle, not to be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

In this regard, the appellants submitted that the board had referred to the possibility of the film 16 shown in Figure 3 of document D12 being a transparent coloured film for the first time in its communication under Article 15(1) RPBA.

The board issued said communication on 15 November 2024. The appellants did not provide any reason why they did not submit the above factual assertion until an advanced stage of the oral proceedings held before the board on 9 May 2025, i.e. about six months later. Moreover, the respondent had already submitted (see the third paragraph from the bottom on page 6 of its reply) that document D12 contemplated coloured transparent materials and that the disclosure of the embodiment in Figure 3 - namely that the document was easily readable - was not implicit disclosure that the device was substantially invisible in visible light, because it could not be ruled out that the transparent plastic material 16/18 was coloured. The above factual assertion submitted by

the appellants during the oral proceedings before the board is therefore not a direct reaction to a new aspect raised for the first time in the board's communication. There are no exceptional circumstances within the meaning of Article 13(2) RPBA that would justify admitting this factual assertion in the appeal proceedings.

The board therefore exercised its discretion pursuant to Article 13(2) RPBA and decided to not admit in the appeal proceedings the factual assertion that even if it were accepted that the film 16 shown in Figure 3 of document D12 was implemented as a coloured plastic material, it would be substantially invisible in visible light of the same colour.

1.3 *Objection of lack of inventive step in view of document D12*

During the oral proceedings before the board, the appellants raised an objection of lack of inventive step in view of document D12 for the first time. Article 13(2) RPBA is pertinent. There are no exceptional circumstances that would justify admitting this objection in the appeal proceedings. In particular, the fact that this objection is based on passages of document D12 that are also cited with respect to the objection of lack of novelty does not give rise to exceptional circumstances.

The board thus exercised its discretion pursuant to Article 13(2) RPBA and decided to not admit the objection of lack of inventive step in view of document D12 in the appeal proceedings.

2. **Interpretation of claims 1 and 12 as granted in view of features 1.4 and 12.4**

The parties disagreed as to how the skilled person would have understood features 1.4 and 12.4 in the context of claims 1 and 12 as granted.

The opposition division took the view that these features could be interpreted as specifying that the device was either invisible under at least one visible light condition or invisible under all visible light conditions (see point 13.3 of the Reasons for the decision under appeal). Both interpretations were technically reasonable. In accordance with the case law, the wording of the claims should be given its broadest technically sensible meaning. In the case in hand, the broader meaning corresponded to the interpretation that the device was substantially invisible under at least one visible light condition. This was the interpretation adopted by the skilled person.

The respondent has not convincingly demonstrated that the skilled person would have deduced from features 1.4 and 12.4 that the device was substantially invisible under all visible light conditions or that the interpretation used by the opposition division was incompatible with the other claim features. The respondent's view that, in the absence of any further qualifier as to the invisibility, the skilled person would not have inferred any limitation on that invisibility is not convincing. This line of argument could also be applied to the specification regarding the visible light. Since the claims do not define the term "visible light", it could be assumed that the

skilled person would not infer any limitation on that "visible light".

The opposition division also explained that the description did not provide clear and unambiguous teaching as to which one of the two proposed interpretations should be used. The opposition division's view is thus not based on an interpretation of features 1.4 and 12.4 derived solely from the description. The opposition division instead stated that the claims themselves allowed for the interpretation that the device was invisible under at least one visible light condition. The respondent took the view that the skilled person would not have consulted the description when interpreting the claims since they would have noticed that the description had not been adapted to the claims as granted. For the reasons above, this question may be left open. The skilled person would have interpreted features 1.4 and 12.4 as set out by the opposition division irrespective of whether they consulted the description.

Claim 3 as granted is not necessarily in conflict with the claim interpretation used by the opposition division. The portion of the security document that forms the substrate of the security device could, for example, be a transparent and colourless window portion of the security document, as also set out by the respondent.

The respondent referred to claim 5 as granted which specifies, *inter alia*, that the first layer could be a metallised layer. In the respondent's view, the skilled person would have immediately realised that this was an error given its incompatibility with claim 1 as granted.

As set out above, the skilled person would have understood from claim 1 as granted that the device is invisible under at least one visible light condition (for example observation angle). The cited feature of claim 5 of the patent as granted is not in conflict with this interpretation of claim 1. Whether a metallised layer renders the security device visible in visible light depends on the properties of the metallised layer, such as the layer thickness. This is furthermore supported, for example, by page 23, line 9, to page 24, line 14, of document D1, which discloses that a metal layer could even be so thin as to be transparent. The same security device can thus have feature 1.4 and, additionally, the above feature of claim 5 of the patent as granted. There is not necessarily a conflict between these features.

The opposition division's conclusion that the skilled person would have understood features 1.4 and 12.4 such that the device is invisible under at least one visible light condition is therefore not objectionable.

**3. Ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC**

In the decision under appeal, the opposition division concluded that the subject-matter of claims 1 and 12 as granted was novel in view of each of documents D1 and D12. The appellants contested this view and submitted that the subject-matter of claims 1, 11 and 12 as granted was not novel in view of any of documents D1 and D12.

### 3.1 *Novelty in view of document D1*

The opposition division concluded that document D1 did not disclose, *inter alia*, features 1.4 and 12.4.

The appellants submitted that the patent covered at least one embodiment in which the substrate was visible in visible light. Figure 2a of document D1 was "extremely" similar to Figure 2 of the patent.

However, even if it were accepted that "the patent" (or, more specifically, the claims of the patent as granted) covered an embodiment in which the substrate was visible under certain visible light conditions, this in itself would not imply that the security device disclosed in the context of Figure 2a of document D1 was invisible under at least one visible light condition. Moreover, even if it were accepted that there were similarities between the schematic illustrations in the patent and in document D1, this in itself would not lead to the conclusion that features 1.4 and 12.4 are unambiguously and directly disclosed in document D1. For example, the structural similarities allegedly apparent from these figures do not imply that the layers comprise materials having similar optical properties (such as transparency under visible or UV light) or similar dimensions. On the contrary, with respect to Figure 2, paragraph [0118] of the patent discloses that when the device 110 is viewed towards the second walls 160 (from B), the image 195 is visible under UV illumination whereas the graphical motif 32 of the motif image 30 disclosed in document D1 is visible in visible light (see for example the paragraph bridging pages 20 and 21 of document D1).

Page 19, lines 22 to 24, of document D1 discloses that the steeply inclined flanks 28 are not metallised, so that the observer can see through the sawtooth structure 22 when looking at it at an angle approximately perpendicular to the flanks 28 (viewing direction B). However, even if the flanks 28 do not render the device visible when looking at it from viewing direction B, this does not alter the fact that the motif image 30 can be seen from this viewing direction, meaning that the security element 12 as a whole is rendered substantially visible.

The appellants also submitted that claims 1, 11 and 12 of the patent as granted did not include any limitations regarding the dimensions or the materials used. However, this does not imply that features 1.4 and 12.4 would have been ignored by the skilled person or had to be disregarded when assessing novelty or inventive step. Different dimensions and/or materials can be used to bring about the optical effect defined in these features. The absence of a definition of the dimensions or the materials in claims 1, 11 and 12 does not imply that the optical effect defined in features 1.4 and 12.4 would be necessarily obtained irrespective of the dimensions or materials of the security device.

The opposition division correctly concluded that the security element 12 disclosed in document D1 comprises a substrate 20, a structured varnish layer 22, a first layer 24 and a motif image 30. The security element 12 is not invisible under any visible light conditions. On page 20, line 26, to page 21, line 9, document D1 discloses that, depending on the viewing angle, either the metallic surface of the first layer 24 or the motif image 30 is visible.

The appellants submitted that the skilled person would have regarded the combination of the substrate 20, the sawtooth structure 22 and the lamellae 24 in Figure 2a of document D1, i.e. without the motif image 30, as constituting a security device. This combination of elements of the security element 12 rendered the motif image 30 visible under some observation angles and invisible under others and thus imparted security on the motif image 30. Claim 1 of the patent as granted did not include any definition of the expressions "security device" or "security document", which therefore had to be interpreted broadly. The motif image 30 could be considered a security document.

The appellants' considerations are not directly apparent from document D1. The skilled person would not have directly deduced from this document that the combination of the substrate 20, the sawtooth structure 22 and the lamellae 24 in Figure 2a of document D1 as such, i.e. without the motif image 30, was a security device or that it imparted security on the motif image 30. In document D1, there is no direct and unambiguous disclosure of a security device comprising only the substrate 20, the sawtooth structure 22 and the lamellae 24 without the motif image 30. The only security device unambiguously and directly derivable from the embodiment shown in Figure 2a of document D1 is the security element 12 having the substrate 20, the sawtooth structure 22, the lamellae 24 and the motif image 30. This security device does not satisfy the definition of features 1.4 and 12.4. It is not unambiguously and directly derivable from document D1 that a security effect can also be achieved without the motif image 30 or that the security element 12 may be modified by removing the

motif image 30. Nor is it directly and unambiguously derivable from document D1 that the motif image 30 is a security document. The security element 12 of document D1 is instead used for the banknote 10 (see Figure 1 of document D1). This view is unaffected by the appellants' submission that the terms "security device" and "security document" should be construed broadly. The appellants have not convincingly demonstrated that the skilled person construing these terms broadly would have directly deduced from document D1 that the motif image 30 was a security document or that the combination of the substrate 20, the sawtooth structure 22 and the lamellae 24 was a security device within the meaning of claims 1, 11 and 12 of the patent as granted.

Document D1 does not directly and unambiguously disclose a security device having features 1.4 and 12.4. The subject-matter of claims 1, 11 and 12 as granted is therefore novel in view of this document.

### 3.2 *Novelty in view of document D12*

The opposition division concluded that document D12 did not disclose, *inter alia*, features 1.4 and 12.4. In this regard, the appellants referred to column 7, line 45, to column 8, line 2, and Figure 3 of document D12. With respect to these passages, the opposition division explained that, in the context of the embodiment of Figure 3, document D12 disclosed neither that the transparent film serving as the substrate of the device was colourless, nor that the opaque layer could not be seen (not even as thin end lines) when viewed along direction B. In the opposition division's view, the black or reflective sloping

surfaces 24 and the plastic film 16 rendered the security device visible in visible light.

The appellants referred to Figure 2 of the patent and submitted that the structure shown in this figure was similar to the one shown in Figure 3 of document D12.

However, the skilled person would not have considered that Figure 2 of the patent showed an embodiment of claim 1 of the patent as granted. Column 5, lines 9 to 11, of the patent states the contrary. Moreover, even if it were accepted that Figure 2 of the patent had certain similarities with Figure 3 of document D12, this in itself would not imply that the structure shown in Figure 3 of document D12 implicitly produced the optical effect specified in features 1.4 and 12.4. For example, whether the end lines (i.e. the edges) of the black or reflective sloping surfaces 24 are visible to an observer looking from direction B depends on parameters such as the thickness of the black or reflective layer. In other words, the presence of the black or reflective sloping surfaces 24 in itself does not necessarily mean that the edges are visible. Nor does it mean that they are invisible (for example when viewed along direction B). Hence, although claim 1 of the patent as granted (including feature 1.4) covers embodiments in which the first layer is metallised (as stated in claim 5 of the patent as granted), this does not mean that each and every metallised layer - or, for that matter, the black or reflective sloping surfaces 24 - would necessarily lead to the optical effect defined in features 1.4 and 12.4. It therefore cannot be unambiguously and directly deduced that the device shown in Figure 3 of document D12 produces the optical effect specified in features 1.4 and 12.4 irrespective of, for example, the layer thickness. Nor

is the optical effect of features 1.4 and 12.4 unambiguously and directly derivable from the description of Figure 3 in column 7, line 45, to column 8, line 2, of document D12.

The appellants also submitted that, when an observer was far enough away from the device, they were no longer able to discern the end lines of the black or reflective surfaces 24 with an unarmed eye.

However, it is a trivial fact that an observer cannot perceive an object with an unarmed eye if the object is far enough away from the observer. If the appellants' view were accepted, this would imply that each and every object was "invisible" within the meaning of features 1.4 and 12.4. The appellants have not convincingly demonstrated that the skilled person would have understood features 1.4 and 12.4 in this way.

The respondent took the view that the skilled person would have understood the visibility and/or invisibility of features as being at the "normal" distances relevant for authenticating security documents using these kinds of security devices. The appellants have not convincingly shown that the security device disclosed in document D12 would be substantially invisible in visible light at such "normal" distances. For example, column 7, lines 25 to 30, of document D12 discloses with reference to Figure 2 that when the document 14 is viewed at an angle of  $60^\circ$  to its plane, as in normal reading and as indicated by the arrows A in Figure 2, the planes 12 appear as end lines. This also seems to be the case for Figure 3, in which the end lines of the black or reflective sloping surfaces 24 in Figure 3 of

document D12 will appear in a similar manner when the device is looked at from viewing direction B.

The appellants stated that document D12 did not rule out the possibility that the substrate was transparent.

However, the question of whether a feature is ruled out in document D12 is different from the question of whether the feature is unambiguously and directly derivable from that document. Moreover, the opposition division's reasoning in this regard is not based on the view that document D12 unambiguously disclosed that the substrate was visible. It is based on the view that it is technically possible and not ruled out in said document that the black or reflective sloping surfaces 24 and the plastic film 16 render the security device visible in visible light.

In column 7, lines 45 to 48, document D12 refers to the plastic film 16 shown in Figure 3 as a "*transparent plastic film*". In column 4, lines 41 to 49, document D12 refers to a filter "*in the form of a film of a transparent colored plastic material*". While this passage does not unambiguously refer to the embodiment shown in Figure 3 of document D12, it demonstrates that document D12 uses the term "*transparent material*" not only for clear materials but also for coloured materials. The skilled person reading document D12 would have used an interpretation of the term "transparent" that is consistent throughout this document and would therefore have considered the term "*transparent material*" to include materials that may be coloured. They would also have used the same interpretation in the context of the embodiment shown in Figure 3 of document D12. However, not all coloured transparent materials are necessarily substantially

invisible in visible light. This would also hold true if it were accepted that there are some coloured transparent materials that are substantially invisible under visible light of the same colour.

The appellants referred to column 4, lines 33 to 50, of document D12 and submitted that this document also envisaged that the plastic material was not coloured.

As one alternative of a filter, the cited passage discloses a filter in the form of a clear plastic material provided with a coloured adhesive and applied to the document to be protected by any suitable or conventional laminating process. However, it is not unambiguously and directly derivable that this alternative refers to the plastic film 16 of the structure shown in Figure 3 of document D12. In view of column 4, lines 33 to 50, of document D12, it is thus technically possible and not ruled out in document D12 that the plastic film 16 is a coloured plastic film that renders the device substantially visible when looked at from viewing direction B.

In the sentence bridging columns 7 and 8, document D12 discloses that the document 28 is easily readable when observed from a convenient viewing angle by the human eye, or in the direction of the arrows B in Figure 3. The skilled person would not have unambiguously and directly deduced from this passage that the security device is substantially invisible in visible light as specified in features 1.4 and 12.4. For example, it is technically possible and not ruled out in document D12 that the plastic film 16 has a clearly visible colouring that does not significantly impair the reading of the document underneath but still renders the device clearly visible under visible light.

Document D12 therefore does not unambiguously and directly disclose at least features 1.4 and 12.4. The subject-matter of claims 1, 11 and 12 as granted is thus novel in view of this document.

### 3.3 *Conclusion on novelty*

Neither document D1 nor document D12 discloses features 1.4 and 12.4. The subject-matter of claims 1 and 12 as granted is therefore novel in view of any of these documents. Since claim 11 as granted contains all the features of claim 1 as granted by virtue of its reference to that claim, its subject-matter is novel in view of these documents for the same reasons.

Hence, the ground for opposition under Article 100(a) EPC in conjunction with Article 54 EPC does not prejudice the maintenance of the patent as granted.

## 4. **Ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC**

The appellants submitted that the subject-matter of claims 1, 11 and 12 of the patent as granted did not involve an inventive step in view of document D1.

The opposition division took the view that the objective technical problem was to increase the burden on counterfeiters. The respondent shared this view. The appellants did not contest this formulation of the objective technical problem or provide any reasons why it was incorrect. There is thus no reason to deviate from the objective technical problem formulated by the opposition division.

The appellants submitted that many passages of document D1 described the security element as being transparent, i.e. invisible, for example the last paragraph on page 4, the first paragraph on page 5, the third paragraph on page 7 and the first three paragraphs on page 18. The paragraph bridging pages 18 and 19 of document D1 stated that transparent/invisible security features were highly resistant to tampering. Page 24, lines 19 to 21, of document D1 suggested removing the motif image.

The last paragraph on page 4 and the third paragraph on page 7 of document D1 disclose embodiments of a see-through security element in which the substrate is transparent. The first paragraph on page 5 of document D1 defines what is meant by a "transparent" material in the context of this document. In the embodiment shown in Figure 2a of document D1, which the appellants consider to be the starting point for discussing inventive step, either the motif image 30 or the metallic lamella 24 is visible depending on the viewing direction. Even if it were accepted that the skilled person had any motivation to use a transparent substrate, this would not imply that there were conditions in which the security device was substantially invisible under visible light. Even in that case, either the motif image 30 or the metallic lamella 24 would be visible.

The second paragraph on page 18 discloses that the see-through security element 12 shows the viewer a different visual appearance depending on the viewing direction. The security element 12 appears shiny and metallic over its entire surface from certain viewing angles, while a graphic motif in the form of a portrait

appears after the banknote is tilted or turned from other viewing angles. However, it is not disclosed that there are conditions in which the security device is invisible under visible light.

The paragraph bridging pages 18 and 19 of document D1 discloses that the see-through security element 12 has an attractive visual appearance in addition to a high level of counterfeit protection. This is achieved by combining a microstructure having a visual appearance dependent on the viewing angle with at least one motif which is only visible from certain viewing angles and concealed from other viewing angles.

This passage relates to the motif image being visible or concealed. However, this does not suggest that, to solve the objective technical problem, the device should be modified such that there are conditions under which the security device is invisible under visible light.

Page 24, lines 19 to 21, of document D1 discloses that by using an etching process for the differently inclined flanks, inclined metallic lamellae 24 can be produced without the need for inclined vapour deposition of the sawtooth structure 22. It is stated that the process is independent of the motif image 30 and can also be used for designs in which the lamellar structure is not combined with a motif image.

In accordance with the could-would approach (see also Case Law, I.D.5), 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. So the point is not whether the skilled person could have arrived at the invention by modifying the prior art, but rather whether, in expectation of the advantages actually achieved (i.e. in the light of the technical problem addressed), they would have done so because of promptings in the prior art.

The motif image 30 forms part of the solution to the technical problem envisaged in document D1 (see for example page 2, lines 5 to 23, and claims 1 and 20 of document D1). Moreover, page 24, lines 19 to 21, of document D1 would not have prompted the skilled person to remove the motif image to solve the above objective technical problem or, for that matter, to achieve any other technical effect. The issue in hand does not hinge on the question of whether the skilled person could have arrived at the claimed security device by combining features individually disclosed in different passages of document D1, but whether, in the light of the technical problem addressed, they would have done so because of promptings in document D1. There are, however, no such promptings in document D1.

It would not have been obvious for the skilled person starting from the security device shown in Figure 2a of document D1 and trying to solve the objective technical problem to implement feature 1.4. For the same reasons *mutatis mutandis*, document D1 did not suggest feature 12.4 to this end.

The subject-matter of claims 1, 11 and 12 as granted therefore involves an inventive step in view of document D1.

The ground for opposition under Article 100(a) EPC in conjunction with Article 56 EPC therefore does not prejudice the maintenance of the patent as granted.

5. **Conclusions**

Since none of the grounds for opposition raised by the appellants prejudices the maintenance of the patent as granted, the appeal has to be dismissed.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



N. Schneider

P. Lanz

Decision electronically authenticated