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**Datasheet for the decision  
of 20 January 2021**

**Case Number:** T 1875/17 - 3.2.05

**Application Number:** 10726160.4

**Publication Number:** 2435252

**IPC:** B42D25/00, B41M3/14, D21H21/48,  
G07D7/00

**Language of the proceedings:** EN

**Title of invention:**  
Security devices for security documents

**Patent Proprietor:**  
De La Rue International Limited

**Opponent:**  
CCL Secure Pty Ltd

**Relevant legal provisions:**  
EPC Art. 54(1), 56, 83

**Keyword:**  
Sufficiency of disclosure (yes)  
Novelty (yes)  
Inventive step (yes)



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**Case Number: T 1875/17 - 3.2.05**

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.05**  
**of 20 January 2021**

**Appellant:** CCL Secure Pty Ltd  
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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
12 June 2017 concerning maintenance of the  
European Patent No. 2435252 in amended form.**

**Composition of the Board:**

**Chairman** P. Lanz  
**Members:** O. Randl  
C. Brandt

## **Summary of Facts and Submissions**

I. The opponent appealed against the opposition division's interlocutory decision concerning the maintenance of European patent No. 2 435 252 ("the patent") in amended form.

II. Among the documents cited by the opposition division, the following are relevant for the appeal proceedings:

D1: US 2006/0196948 A1  
D2: AU 200043751 B2  
D3: US 2009/0008458 A1  
D4: US 2009/0101837 A1  
D5: WO 2009/013528 A1  
D6: US 5,005,873  
D7: US 2006/0249951 A1  
D8: US 6,919,123 B2  
D9: US 2006/0131425 A1  
D10: JP 04-338598

III. The oral proceedings before the board took place by video conference on 20 January 2021.

The duly summoned appellant did not attend the oral proceedings, as it had announced by letter dated 15 December 2020 and confirmed by letter of 13 January 2021. According to Rule 115(2) EPC and Article 15(3) of the Rules of Procedure of the Boards of Appeal (RPBA 2020), the proceedings were continued without this party.

IV. The appellant (opponent) had requested in writing that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed, or that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of one of auxiliary requests 1 to 10 filed by letter dated 19 November 2020.

V. Claim 1 of the main request reads (the feature references used by the board are given in square brackets):

"1. [1] A security device [2] comprising at least one at least partially light transmitting spacer layer, [3] on one side of which are formed first indicia, [4] said first indicia comprising a plurality of repeating elements [5] and being formed from a material which emits a coloured visible light when excited by a form of radiation, [6] and on an opposing side of the spacer layer is an absorbing material, which absorbs the said radiation [7] but not visible light, [8] the absorbing material being applied in a pattern comprising a plurality of repeating elements similar to the elements of the first indicia and having gaps between the elements."

VI. The parties essentially argued as follows:

**(a) Sufficiency of disclosure**

(i) Appellant (opponent)

On page 5 of the decision under appeal, the opposition division states that "the concept of "essential

features" is generally used with Article 84 EPC, which is not a ground for opposition". However, Guidelines F-IV, 6.4 is quite clear that "although an objection of lack of support is an objection under Article 84 EPC, it can often ... also be considered as an objection of insufficient disclosure of the invention under Article 83 EPC ... the objection being that the disclosure is insufficient to enable the skilled person to carry out the "invention" over the whole of the broad field claimed". The respondent has never made it clear at any stage in examination or opposition proceedings that the "form of radiation" which excites the material of the first indicia is UV light. There is no doubt that, as currently worded, claim 1 includes the possibility that the material of the first indicia can emit coloured visible radiation when excited by a form of radiation from anywhere within the electromagnetic spectrum. This covers excitation by gamma rays (at one extreme), X-rays, UV and infrared radiation or (towards the other extreme) microwaves and radio waves. When reading the claim with an attempt to make technical sense out of it (as required by Guidelines F-IV, 4.2) it can only be inferred that the form of radiation is invisible (because the absorbing layer does not absorb visible light). No examples of a material which emits a coloured visible light when excited by a form of radiation are provided other than materials which fluoresce under UV illumination. Neither the term "photochromic" nor "thermochromic" describes a material which emits a coloured visible light when excited by a form of radiation. Guidelines F-IV, 6.4 goes on to state that the requirements of support and sufficiency "are designed to reflect the principle that the terms of a claim should be commensurate with, or be justified by, the invention's technical contribution to the art"

and if "the invention, over the whole range claimed, extends to technical subject-matter not made available to the person skilled in the art by the application as filed" said invention does not meet the requirements of Article 83 EPC. The application does not contain sufficient information to allow a person skilled in the art to carry out the invention within the whole area that is claimed (T 409/91). Moreover, other essential features of the invention are missing from claim 1. Paragraph [0030] makes it clear that the "effect of the security feature is derived from the fact that the UV (or other radiated) light is only able to pass into, and through, the spacer layer 11 at an angle which allows it to reach the elements making up either the first indicia 12 or the second indicia 13, but not both". The skilled person would therefore understand that the size of the elements of the indicia and of the absorbing layer, and the thickness of the spacer layer, are inextricably linked. This is not suitably expressed by the term "similar" in claim 1. Furthermore, it seems clear that there must be gaps between the elements of the first indicia, whether or not these are occupied by elements of a second indicia, and this requirement is not expressed in claim 1 either. Every embodiment described in the patent comprises two interleaved indicia, with the exception of one embodiment in which a second indicia is effectively provided by the absence of an explicit second indicia, i.e. the second indicia is provided by the gaps between the elements of the first indicia. The invention therefore requires two indicia, whether the second is formed by the gaps in the first indicia or otherwise. It is also clear that the second indicia should be a different colour which might, for argument's sake, be "colourless" (see paragraphs [0029] and [0030]). The opposition division stated that two conditions must be met for a feature

not present in a claim to be so essential that the claim conflicts with Article 83 EPC: (i) The feature must be essential according to Article 84 in that it is disclosed in the disclosure as essential. (ii) The invention cannot be performed without this feature. UV fluorescence is implicitly disclosed as being essential because no alternatives are provided. The invention cannot be performed if no visible light is emitted (by at least one of the indicia). It is also clear that the presence of gaps between elements of the first indicia is essential. The invention cannot be carried out if it is not possible to perceive a visual difference depending on the direction of illumination, which would be the case if the first indicia were continuous. Finally, two indicia (of different colours) must be provided (see paragraph [0030]). As noted above, the invention cannot be performed if it is not possible to perceive a visual difference depending on the direction of illumination. Consequently, the invention is insufficiently disclosed.

(ii) Respondent (patent proprietor)

The opposition division's view that claim 1 discloses all of the essential features of the invention and that the application discloses at least one way of carrying out the invention, thereby meeting the requirements of Article 83 EPC, is correct. The appellant only relies on the wording of the claim and fails to use the correct test for insufficiency, namely that the application as a whole must be taken into account as well as the common general knowledge of the skilled person. As stated in Guidelines F-III, 1, "[t]he description must disclose any feature essential for carrying out the invention in sufficient detail to render it apparent to the skilled person how to put the

invention into practice". This assessment must therefore be based on the application as a whole and must take into account the common general knowledge of the skilled person. One example of a form of radiation is given in the description, namely UV light (e.g. paragraph [0026]), and paragraph [0042] gives examples of suitable UV absorbing materials. Paragraph [0026] further states that "[i]f the inks/materials used for the indicia 12, 13 respond to another form of radiation, the absorbing material must be one which absorbs that form of radiation". Thus it is clear from the description that, whilst UV light is one form of radiation that the inks/materials of the indicia can respond to, the invention can utilise inks/materials which respond to other forms of radiation. The appellant's objection - that no examples of a material which emit a coloured visible light when excited by a form of radiation are provided other than materials which fluoresce under UV illumination - is an explicit acknowledgement that the patent does disclose at least one example of a material which would enable the skilled person to reproduce the invention, thereby satisfying the requirement for sufficiency. It is within the knowledge of the skilled person to identify other materials which would respond in the same way (i.e. to emit a coloured visible light) to other forms of radiation, for example infrared radiation. The appellant refers to paragraph [0030] of the patent and implies that this would lead the skilled person to understand that the size of the elements of the indicia and the absorbing layer are inextricably linked, and that these are therefore essential features of the invention which should be expressed in claim 1. However, this paragraph is describing the effect of the security feature in relation to one particular embodiment of the invention. The skilled person would



have already read paragraph [0027] ("This occurs as the UV light can only pass through the gaps 18 between the absorbing regions 14 and excite the ink/material used to form the stripes of the first indicia 12, which is closest to the lamp 15. The absorbing regions 14 prevent any radiation from getting to the stripes of the second indicia 13"). The paragraph goes on to describe what happens when the lamp is moved. Thus, the skilled person would understand that it is the function of the absorbing material to absorb the radiation where it is present, thereby preventing it from passing through into the spacer layer to the indicia, whereas the radiation can pass freely through the gaps. This is all that is required to make the invention work, not the relative size of the elements of the indicia and the absorbing layer. Those can be adjusted to obtain some very clever additional effects and images, which are described in the examples, but are not essential features. It is not correct that there must be gaps between the elements of the first indicia, whether or not they are occupied by second indicia. The invention would work even if there were only first indicia and no gaps between the repeating elements. The presence of gaps between the first indicia (where there are only first indicia) or second indicia located between the repeating elements of the first indicia is not necessary. These are just preferred embodiments. Claim 1 discloses all of the features essential for enabling the invention to be carried out and the patent therefore meets the requirements of Article 83 EPC.

**(b) Novelty over document D2**

(i) Appellant (opponent)

Contrary to the opposition division's assertion, document D2 clearly and unambiguously discloses features 6 and 7. On page 8 of the decision, the opposition division explains that claim 1 is to be interpreted such that substantially all of the radiation is absorbed by the absorbing material. Reference is made to column 5, lines 40 to 44 of the patent to support this position. However, claim 1 does not require this to be the case. A claim should be read giving the words the meaning and scope which they normally have in the relevant art, unless in particular cases the description gives the words a special meaning (Guidelines F-IV, 4.2). On a normal reading, the skilled person would not interpret the term "absorbs the said radiation" as requiring that substantially all of the radiation is absorbed, nor would they give the words a special meaning in the context of the description. Even when the claim is read "with an attempt to make technical sense out of it", there is no need to interpret the expression so narrowly. The skilled person would know that as long as some UV light is absorbed, the security feature will fluoresce "differently depending on where the lamp 15 is held along the length of the device" (see paragraph [0030] of the patent). Whether the absorbing layer is able to absorb substantially all of the radiation depends on the intensity of the radiation and/or the thickness of the absorbing material, and the claim makes no reference to either. The patent does not mention any kind of "perfect absorber" of UV radiation either. The opposition division states in the first paragraph

on page 8 of its decision that "although the fluorescent material of document D2 absorbs at least some of the UV light, it is not disclosed in document D2 that substantially all of the UV-light is absorbed". However, whether substantially all of the UV light is absorbed depends on the intensity of the radiation and/or the thickness of the fluorescent material. Even if document D2 does not explicitly disclose that substantially all of the UV light is absorbed, it is reasonable to expect that low-intensity UV illumination *would* be completely absorbed, while still causing fluorescence where it impinges on the other indicia. Although absorption and fluorescence describe different physical phenomena, it cannot be ignored that the physical phenomena of fluorescence *require* absorption, and therefore a fluorescing material is inherently an absorbing material. On page 8, the opposition division explains that document D2 does not disclose that both the colours/indicia 7 and 9 are formed from a material which emits a coloured visible light when excited by a form of radiation and at the same time are an absorbing material which absorbs the said radiation but not visible light. It states that the one or more colours on page 10 of document D2 could be colours which are all on one side of the substrate. This particular point of interpretation is incorrect. Page 10 describes a security device which comprises a substrate "provided on one side with first indicia and on the other side with second indicia ... each of the first and second indicia comprising at least one block, the block(s) of one indicia overlapping the block(s) of the other indicia, and the blocks of the first and second indicia having different colours" (emphases added; see paragraph 2, lines 8 to 9 and 17 to 18 in particular). The skilled person would understand this to mean that the first indicia is a different colour from the second

indicia. As each of the first and second indicia might comprise one block, this is the only logical conclusion possible. Accordingly, different colours are provided on opposing sides of the substrate. This is further supported by the statement in paragraph 3 according to which "a further colour will appear where there is overlap resulting from the combination of the two colours." (emphasis added) As noted above, the overlap is between the first indicia on one side of the substrate and the second indicia on the other side of the substrate. The fact that this paragraph goes on to say that "[f]urthermore, each of the first and second indicia itself could be defined in more than one colour" gives more weight to this interpretation. Finally, paragraph 5, lines 31 to 33, states that "one or more of the colours could be fluorescent so that they are only visible in ultraviolet light" (emphasis added). The preceding paragraphs are consistent with the first and second indicia being different colours and on opposite sides of the substrate. The skilled person would therefore understand that the author of the document intended this passage to mean that the first and second indicia could be fluorescent. Thus, the subject-matter of claim 1 is anticipated by document D2 and therefore lacks novelty.

(ii) Respondent (patent proprietor)

The opposition division found that document D2 fails to disclose the feature whereby the second material is "an absorbing material, which absorbs the said radiation but not visible light". The patent proprietor wholly agrees with the opposition division's construction of the meaning of this feature. This is undoubtedly the interpretation that the skilled person would make. Based on the description, the skilled person would be

well aware that the invention requires a material which absorbs the radiation as effectively as possible. Paragraph [0027] quite clearly states that "the UV light can only pass through the gaps 18 between the absorbing regions 14 and excite the ink/material used to form the stripes of the first indicia 12" and that "[t]he absorbing regions 14 prevent any radiation from getting to the stripes of the second indicia". The use of the words "can only" and "prevent" in these two sentences makes it clear that the radiation (whether UV light or another form of radiation) must not be able to pass through the absorbing material itself, only the gaps, and thus must be substantially wholly absorbed. The appellant's interpretation of this feature is not only at odds with what a skilled person would normally understand, but also with what is clearly and unambiguously stated in the description. It is not disputed that fluorescence requires some absorption, as indeed does phosphorescence; however, a fluorescent material is not what would be inherently described as an absorbing material, as it would not necessarily absorb substantially all of the radiation, but only enough to create the fluorescent effect. Document D2 describes (on page 10, paragraphs 2 to 5) a security device which has first indicia on one side of a substrate and second indicia on a second side, each of said indicia comprising at least one block. It states that the first and second indicia "can both be seen when the device is viewed from one side of the substrate under transmitted radiation, the first and second indicia cooperating together to generate an image different from the appearance of the first and second indicia individually". These first and second indicia have different colours; however, this does not mean that they are formed from a UV absorbing material which absorbs UV light but not visible light. The point

of this coloured version is that "a further colour will appear where there is an overlap resulting from the combination of the two colours". As the opposition division correctly identified, document D2 first states that "[e]ach of the first and second indicia itself could be defined in more than one colour" before stating that "one or more of the colours could be fluorescent". Thus, there is no clear and unambiguous disclosure that each of the first and second indicia are fluorescent. One set of indicia from document D2 would have to be fluorescent in order to provide the first indicia from claim 1, and the other set of indicia from document D2 would also have to be fluorescent in order to provide the allegedly absorbing layer; however, according to document D2, the construction must also be such that it enables the colours of the first and second indicia to combine where they overlap. This would necessarily require the UV light to be able to pass through the blocks of one set of indicia in the region of the overlap to activate the fluorescence in the blocks of the other set of indicia. Therefore there can be no absorbing layer as is required in claim 1. Consequently, document D2 fails to disclose the feature whereby the second material is "an absorbing material, which absorbs the said radiation but not visible light", and claim 1 is novel over document D2.

**(c) Inventive step, starting from document D2**

(i) Appellant (opponent)

Assuming that claim 1 differs from document D2 on account of the feature whereby " ... the second material is an absorbing material which absorbs the said radiation but not visible light...", a notional

objective technical problem can be identified as how to increase the visual impact of the security device taught by document D2. A fluorescent material absorbs UV light and emits visible light. It also transmits visible light (this is implicit in that the overlapping blocks result in additive colour combinations (see lines 21 to 22 on page 10 of document D2) and that the indicia are only visible in ultraviolet light (see lines 32 to 33)). As noted above, the patent does not disclose a "perfect absorber" and the skilled person would, as a matter of routine experimentation, make the fluorescent indicia of document D2 sufficiently thick and/or of a material which otherwise absorbs "substantially all of the radiation", with the inevitable result that they would arrive at the combination of features recited in claim 1.

If it is accepted that "the one or more colours on page 10 of document D2 could be colours which are all on one side of the substrate", i.e. that the first indicia but not the second (or vice versa) may be fluorescent, then it would be a relatively trivial modification to make the other indicia fluorescent as well, and this would certainly be within the bounds of routine experimentation. This would be another straightforward solution to a notional objective technical problem of increasing the visual impact of a security device.

In addition, the skilled person would consider, based on the teaching of document D1, printing one of the indicia with a UV blocking ink. It is disclosed in document document D2 (see paragraph 1 on page 10 for example) that an obscuring material may be provided "to restrict the visibility of the second indicia when the substrate is viewed in reflection from one side". If the second indicia were fluorescent, application of a

UV blocking ink (as taught by document D1) would be one way of achieving this aim and would inevitably lead the skilled person to arrive at the combination of features in claim 1. The subject-matter of claim 1 therefore lacks inventive step over document D2 in light of the common general knowledge of the skilled person, or in light of the teaching of document D1.

As each of documents D4 to D10 discloses materials which absorb radiation, the subject-matter of claim 1 also lacks inventive step over document D2 in light of any of documents D4 to D10, *mutatis mutandis*.

(ii) Respondent (patent proprietor)

The nature of the security feature from document D2 is such that it leads the skilled person away from the use of anything that would absorb substantially all of the radiation, as this would prevent the special effect that the colours of the first and second indicia combine where they overlap. There is nothing in document D2 to suggest that this is anything other than the essential effect of the invention, so there is no reason for the skilled person to consider doing as the appellant proposes. As such, the invention as defined in claim 1 is also inventive in view of document D2 alone or in the light of document D1.

**(d) Inventive step, starting from document D1**

(i) Appellant (opponent)

In its decision, the opposition division states that the subject-matter of claim 1 differs from document D1 in that: "the absorbing material is on an opposing side of the spaced layer". As noted, paragraph [0046]



discloses that the UV blocking material can be added "nonuniformly over the card area, such as in a discontinuous or patterned fashion in an otherwise uniform layer" (emphasis added). This may be used to provide "a secondary security indicia, which can be used in addition to the original security indicia". Regardless, document D1 anticipates the provision of a patterned UV blocking layer (equivalent to the absorbing material of claim 1) in addition to fluorescing indicia (equivalent to the first indicia of claim 1). It is then stated in paragraph [0047] that this may be done "by simply applying the UV blocking material by a printing process or the like to one or more of the other layers of the card construction" (emphasis added). Document D1 therefore clearly anticipates locating the UV blocking material at any interface in the card structure, which would include on an opposing side of the primary cardstock layer 42b, for example (equivalent to the spacer layer in claim 1). It is in any case explicitly stated in paragraph [0048] that the UV blocking material can be "printed on one or both outer surfaces of the IR filter laminate", which would again locate UV blocking material on an opposing side of the primary cardstock layer 42b with respect to the original security indicia located at the interface 42c. In summary, document D1 does clearly disclose an arrangement in which "the absorbing material is on an opposing side of the spacer layer". The opposition division also states that the subject-matter of claim 1 differs from document D1 in that the pattern of the absorbing material is similar to the elements of the first indicia. On the face of it this is the only difference between the subject-matter of claim 1 and what is disclosed in document D1. It is not apparent what technical feature the similarity (not identity) between the pattern of the absorbing material

and the elements of the first indicia is meant to solve, and in the absence of any clear technical contribution this feature cannot be said to involve an inventive step. Furthermore, it is not apparent from the patent to what extent two patterns may be considered "similar". This term must therefore be construed broadly. The Oxford Dictionary of English defines similar as "Having a resemblance in appearance, character, or quantity, without being identical". In any case, paragraph [0048] of document D1 describes a variant in which "[i]f the original security indicia is also included, it can be printed atop portions of the pattern where the UV blocking material is present" and describes that the "patterned UV blocking material can define a positive or negative image (e.g. background or foreground) of alphanumeric characters, logos, symbols, graphics or any other indicia". This is consistent with the primary security indicia, which can also comprise "a pattern, alphanumeric text, logos, symbols, graphics, or other indicia that can be used for purposes of authentication" (see paragraph [0005]). If the primary security indicia can define "a pattern, alphanumeric text, logos, symbols, graphics, or other indicia that can be used for purposes of authentication" and if the UV blocking material can define "a positive or negative image (e.g. background or foreground) of alphanumeric characters, logos, symbols, graphics or any other indicia", it would seem to be obvious that they can define similar indicia, and therefore that the absorbing material may be applied in a pattern similar to that of the indicia. In this context, it would also seem to be obvious that the UV blocking material can define a negative image corresponding to a positive image defined by the primary security indicia, or vice versa, which also constitutes a similar pattern (particularly if the

example in the patent of a series of stripes is considered). It would be a matter of routine modification or experimentation for the skilled person to consider printing the primary indicia and the UV blocking layer in similar patterns. The subject-matter of claim 1 therefore lacks inventive step over document D1, whether considered alone or in light of the common general knowledge of the skilled person.

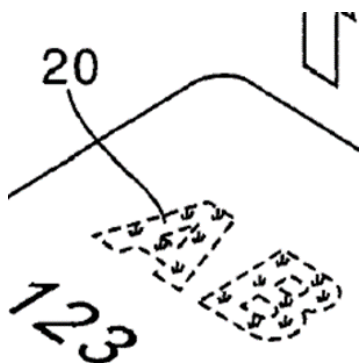
(ii) Respondent (patent proprietor)

The appellant has referred to paragraphs [0046] to [0048] and the various options described in these paragraphs as disclosing an absorbing material on the opposing side of the spacer layer and therefore argued that the only difference between what is disclosed in document D1 and claim 1 is that the pattern of the absorbing material is not similar to the elements of the first indicia; however, the purpose of the absorbing layer in document D1 is quite different to that of the patent. In the patent, the absorbing layer is designed to only allow radiation to pass through gaps in this layer (i.e. in a specific pattern), which excites limited portions of the indicia located on the other side of the spacer layer to create a special visual effect which enhances security. If the patterns were not similar, then the described special visual effect would not be achieved. In document D1, the UV blocking material is used to prevent the phenomenon described with respect to Fig. 3, namely in which the fluorescent indicia 20 cannot be distinguished from the inadvertent fluorescence of the IR filter 16a. The problems solved by the patent and by document D1 are therefore entirely different, and so a skilled person would not look to document D1 as a suitable starting

point to solve the problem which the invention of the patent solves.

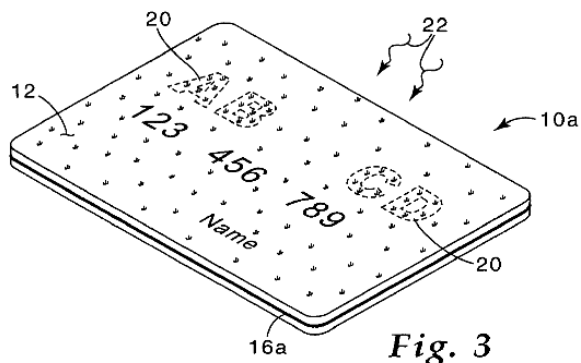
*Feature 4: plurality of repeating elements*

The term "repeat" means that the same thing happens again and again. The letters A, B, C and D from document D1 are not the same thing - they are different things. Therefore, they cannot be construed as repeating elements. In its provisional opinion, the board referred to the little elements depicted within the letters:



Detail of Fig. 1 of document D1

These elements only indicate the fluorescence of the material, however. This can be seen from Fig. 3, which illustrates the problem that document D1 aims to solve. In this document, these symbols are found over the entire surface of the card. They cannot be elements that make up the letters.



The description of document D1 suggests in paragraph [0005] that they can be "a pattern, text, logos, symbols and graphics" (see also paragraph [0024]), but nowhere does it disclose that it is a pattern made up of repeating elements. Instead, they are each instances of distinct different elements which do not recur. This repetition enables the security effect of the present invention to be achieved, as explained, for example, in paragraph [0039] of the patent:

"... as the UV lamp 15 is moved along the length of the security device 10, a set of fluorescent stripes with a single colour alternate with a set of colourless stripes both of which appear to move along the length of the device 10, again similar to a barber's pole".

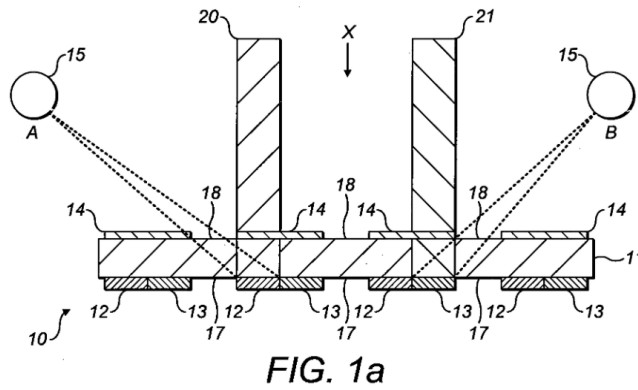
In this example the repeating elements are stripes and, if each of them were not the same, this effect could not be achieved. There is nothing in document D1 which would lead the skilled person to modify these indicia to make them specifically a pattern made up of repeating elements. Indeed paragraph [0005] leads the skilled person away from this idea and suggests that the indicia would most commonly be a name, abbreviation, logo or insignia of the card issuer or

other institutions, none of which would suggest a pattern comprising repeating elements.

*Feature 6: absorbing material on opposing side*

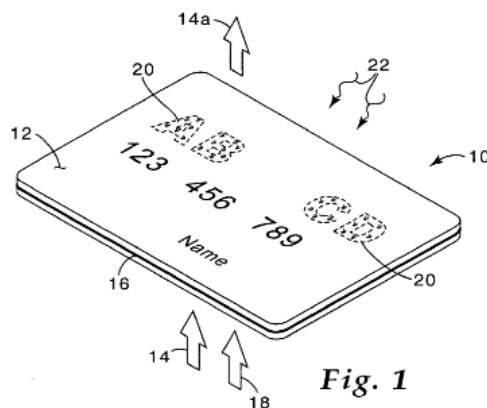
Paragraph [0048] of document D1 discloses that "[t]he UV blocking material can alternatively be printed on one or both outer surfaces of the IR filter laminate ... so long as at least some of the UV blocking material is disposed between an outer surface of the finished card and the UV-excitable component of the IR filter (and, if the original security indicia is present, between that security indicia and the UV-excitable component of the IR filter)". There is absolutely no suggestion in document D1 that the absorbing material could or should be applied in a pattern of repeating elements which are similar to those of the first indicia. The skilled person would not even contemplate doing this as the purpose of the UV blocking material is to disguise the inadvertent background fluorescence from the IR filter to prevent it from interfering with/disguising the fluorescing first indicia. In its provisional opinion the board has found that although feature 6 arguably is not disclosed in combination with the other features of claim 1, it is ultimately suggested in document D1 and therefore cannot justify the involvement of an inventive step. However, the purpose and therefore the required positioning of the UV blocking material in document D1 relative to the indicia is entirely different to that of the invention. In the present invention, which is directed to an improved directional teller-assist security feature that is difficult to counterfeit (see paragraphs [0015] and [0029]), the special visual effect of the security device occurs when the security device is viewed under the appropriate radiation

located on the same side as the absorbing material (see paragraph [0027] of the patent), i.e. in the direction of arrow X in Fig. 1a:



This is from the opposite side to the side on which the indicia are located. The radiation passes through the gaps in the absorbing layer to excite the materials of the indicia located on the other side of the spacer layer.

The device from document D1, on the other hand, is designed to be viewed from the opposite side, i.e. from the side on which the indicia 20 are located (front side 12).



The location of the UV blocking material in document D1 is crucial for eliminating or reducing the level of

fluorescence observed from the IR filter, which is behind the indicia, compared with the security indicia in order to prevent the security indicia from being obscured (see paragraphs [0037] and [0038] of document D1). Thus, the rest of paragraph [0048], only part of which was cited in the provisional opinion, must be taken into account, which states that

"at least some of the UV blocking material is disposed ... if the original security indicia is present, between that security indicia and the UV-excitable component of the IR filter." (emphasis added)

Therefore, the mere fact that paragraph [0048] suggests that the UV blocking material can be printed on one or both outer surfaces of the IR filter laminate without all the other features of claim 1 does not render this an obvious feature, as the features of the claim are inextricably linked in order to provide the security effect which the invention in claim 1 provides (see further explanation below).

*Feature 8: similar pattern*

The appellant also argued that the combination of references in document D1 to the UV material being printed in "a positive or negative image ... of alphanumeric characters, logos, symbols, graphics or any other indicia" in paragraph [0048] and security indicia which fluoresce to reveal "a pattern, alphanumeric text, logos symbols, graphics or other indicia" in paragraph [0005] means that they are applied in a pattern which is similar. This is simply not true. Nowhere does document D1 indicate or even hint at the fact that the pattern of the absorbing



elements and of the first indicia might be the same. The end of paragraph [0005] states that the UV blocking material can be provided in a printed layer to provide secondary security indicia and that the original security indicia can be eliminated in favour of this secondary indicia.

In its provisional opinion the board has acknowledged that this feature is neither disclosed nor suggested in document D1, but considers that this feature does not provide a technical effect and therefore does not involve an inventive step. When stating, in paragraph 8.1.4 of the provisional opinion, that "feature 8 boils down to the elements of the absorbing material being similar to the elements of the first indicia", the board has overlooked the other parts of this feature according to which the pattern of the absorbing material also comprises "a plurality of repeating elements" and has "gaps between the elements".

The claimed security device provides a very special technical effect, in which feature 8 plays a crucial role. The security device from claim 1 has a spacer layer 11 with the indicia 12 applied to one side, which are made up of a plurality of repeating elements, and the absorbing material 14 applied to the other side, which also has a plurality of repeating elements similar to those of the indicia and gaps 17 between the repeating elements. The indicia 12 are formed from a material which emits a coloured visible light when excited by a form of radiation. A simple example is illustrated in Fig. 3c:

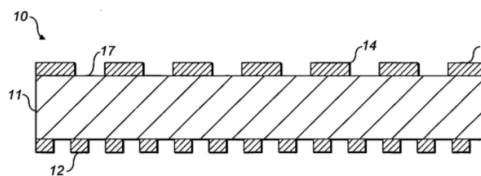


FIG. 3c

As explained in paragraph [0039], this occurs when the UV light is applied and the security device is viewed from the same side as the absorbing material 14 in the UV light, as the UV light can only pass through the gaps 17 between the elements of the absorbing material 14. The angle and distance at which the UV lamp is held relative to the security device 10 will determine which parts of the elements of the indicia 12 the UV light is able to reach through the gaps 17 and cause to fluoresce (see Fig. 1a). Different angles/distances will create a different visual effect as different parts of different elements of the indicia 12 are caused to fluoresce. This is illustrated in the following three annotated versions of Fig. 3c. In these versions, the lamp is held at different positions A, B and C and the cones extending from these points show how much of the UV light beam is able to pass through the gaps 17 in the absorbing layer to reach which elements of the indicia 12 on the other side of the spacer layer 11. The vertical bars show the coloured light emitted by the excited elements which will be visible to the viewer. In reality, the UV light will be able to pass through more than one gap 17 at any one position, providing a more complex pattern of coloured light (i.e. multiple coloured stripes with gaps between them)

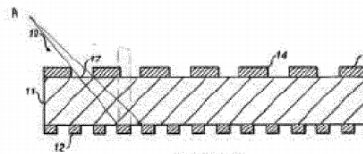


FIG. 3c

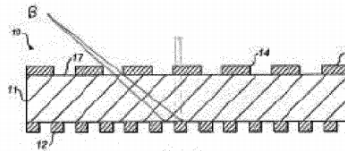


FIG. 3c

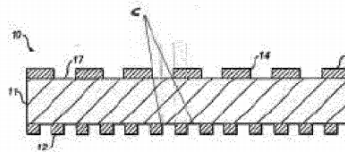


FIG. 3c

A more complex example is illustrated in Fig. 1a and described in paragraphs [0027] to [0030] of the patent.

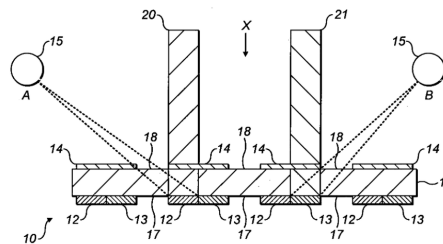


FIG. 1a

If the elements of the absorbing material 17 do not repeat and are not similar to those of the indicia 12 and there are no gaps 17 between the elements of the absorbing material, this special technical effect cannot be achieved. Each of these features therefore do undoubtedly provide a technical effect.

Furthermore, this interrelationship between the repeating similar elements of the indicia and absorbing material and the gaps between the elements of the absorbing material cannot be derived from document D1, and this would not be an obvious modification from the disclosure either.

As mentioned previously, the security element from document D1 is designed to be viewed from the opposite side to that of the present invention and the UV blocking layer of D1 is used to solve an entirely different problem - not to create a special visual security effect, but to prevent security indicia from being made unobservable when viewed under UV light due to other areas of the card emitting fluorescent light being of a similar intensity and colour. Claim 1 is therefore not obvious in view of document D1.

According to the appellant each of documents D4 to D10 discloses materials which absorb radiation, and therefore claim 1 also lacks inventive step in view of D2 and any of documents D4 to D10. However, the same arguments apply to this as are made above in relation to D2 alone. Claim 1 is therefore not obvious in view of D2 in the light of any of documents D4 to D10.

When asked by the board whether the similarity claimed by feature 8 was sufficiently precise to ensure that the alleged effect was obtained over the whole claimed range, the appellant expressed its conviction that it was. In the embodiment in Fig. 3c, the stripes 14 are wider than the stripes 12, but are still similar. This similarity provides for the regular effect. By contrast, in document D1 there is no similarity at all.

It is not necessary to add the technical effect as a functional feature. The skilled person would understand that the claimed similarity is such that the regular effect is obtained.

When asked whether the claim language expressed all the relevant features of the embodiments such that the

technical effect was indeed obtained, the appellant expressed the opinion that this was a matter of clarity rather than a matter of inventive step.

(e) **Inventive step, starting from document D3**

(i) Appellant (opponent)

The opposition division was of the opinion that the difference between the subject-matter of claim 1 and document D3 lies solely in that the second indicia in document D3 do not absorb radiation. For similar reasons to those discussed above in relation to document D2, replacing the second indicia in document D3 with a UV blocking ink (as taught by D1) or a material which absorbs said radiation (as taught by any of documents D4 to D10) would result in the combination of features in claim 1. Accordingly, the subject-matter of claim 1 also lacks inventive step over document D3 in light of D1 or any of documents D4 to D10.

(ii) Respondent (patent proprietor)

Claim 1 requires that the first indicia are "formed from a material which emits a coloured visible light when excited by a form of radiation". This feature is not present in document D3 in that the first portions 13 are not formed from a material which emits a coloured visible light when excited by a form of radiation. Whilst there is a layer 15 which is formed from a fluorescent composition (paragraph [0117]), this is a layer which covers the second indicia but the second indicia are not formed from it. This layer itself cannot provide the indicia from claim 1 as it is a continuous layer and not indicia comprising a plurality of repeating elements. The appellant has

suggested that it would be obvious to replace the second indicia (i.e. the first portions 13) from document D3 with the UV blocking ink from D1 or any of the radiation absorbing materials from documents D4 to D10; however, it is not clear why the skilled person would do this. It is necessary that these portions are either reflective or opaque if negative images are to be created. There is therefore no reason for the skilled person to replace this with a material which absorbs radiation but not visible light. If the material is transparent to visible light, then the portions cannot provide the images required in transmitted light. Claim 1 is therefore not obvious in view of document D3 in the light of D1 or any of documents D4 to D10.

## **Reasons for the Decision**

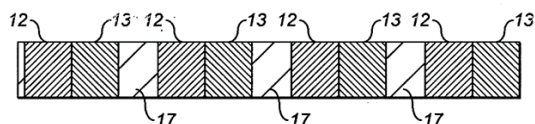
### 1. Interpretation of claim 1

#### 1.1 Feature 4: "repeating elements"

Feature 4 requires the first indicia to comprise a plurality of "repeating elements". The patent does not offer a definition of this expression but provides examples. Paragraphs [0023] and [0024] are particularly relevant in this context:

"The indicia 12,13 and the absorbing material regions 14 comprise a plurality of substantially similar repeating elements, such as stripes, curves, pixels and the like. Each set of indicia may form an image, for example in the case of the structure shown in Figure 1 each image is divided

into strips (indicia) 12 and 13 respectively and then the strips are interlaced. The image preferably provides identifying information and could be any one of symbols, pictorial representations and characters including alphanumerics and those from non-Roman scripts of which examples include but are not limited to, Chinese, Japanese, Sanskrit and Arabic. In the embodiment illustrated in Figures 1a and 1b first indicia 12 comprises a set of stripes which extend transversely from one edge of the spacer layer 11 to an opposing edge and repeat at intervals along the length of the layer 11. Similarly second indicia 13 comprises a set of stripes which also extend transversely from one edge of the spacer layer 11 to an opposing edge and repeat at intervals along the length of the layer 11. ..."



**FIG. 1b**

Accordingly, the board understands "repeating elements" to mean "recurrent elements" or "elements that occur repeatedly".

1.2 Feature 5: "... when excited by a form of radiation ..."

Feature 5 requires the security device to comprise first indicia formed from a material which emits a coloured visible light when excited by "a form of radiation". When trying to understand what is meant by this feature, the skilled person would consider the patent as a whole and realise that:

- Claim 1 requires the radiation to be such that it can be absorbed by a layer of absorbing material.
- Feature 7 of claim 1 makes no sense when the radiation is visible light. Therefore, the radiation cannot be or comprise visible light.
- The invention is to be used on security documents such as banknotes, ID cards and the like (paragraph [0002]), i.e. items that are relatively thin. It is intended to in particular improve so-called "teller-assist" features (paragraph [0012]), i.e. features requiring simple hand-held devices to view them (see paragraph [0007]).
- UV light is an example of the claimed form of radiation (paragraph [0024]), but the radiation may also be outside the UV range (paragraph [0026]). The radiation under consideration is "light", i.e. of an electromagnetic nature (paragraph [0030]).

When considering that relatively thin layers of material have to absorb the radiation and that hand-held devices to detect counterfeiting are envisaged, the extreme ranges of electromagnetic radiation, in particular gamma radiation and radio waves, appear to be excluded. As all the embodiments of the invention concern UV radiation, the skilled person would consider that the radiation mentioned in claim 1 necessarily includes UV radiation but also covers radiation on both sides of the UV spectrum other than visible light, i.e. infrared light and possibly soft X-rays.



1.3 Feature 6: "absorbing material, which absorbs the said radiation"

Feature 6 introduces an "absorbing material" as being on the side of the spacer layer that is opposite the side on which the indicia are provided.

The board notes that the term "material" in claim 1 refers not so much to the nature of the elements that are intended to absorb the radiation (i.e. the material or substance from which they are made), but to the elements themselves (i.e. the quantity of material involved, which the patent also calls the "absorbing region(s)").

What exactly is an absorbing material? As any real-world material absorbs radiation at least to some extent, it might be argued that any material qualifies as an absorbing material. However, this interpretation is questionable because it would make feature 6 meaningless. The skilled person trying to understand this feature would need to refer to the description to determine its meaning.

The patent does not offer a proper definition of "absorbing material"; however, when discussing the use of a UV-absorbing material (see paragraph [0026]) in the context of the device in Fig. 1a,

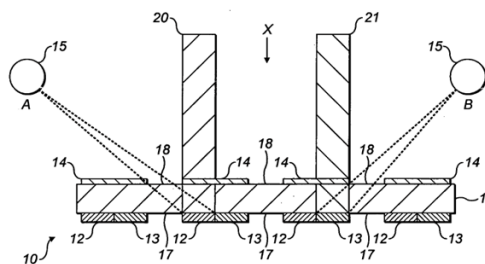


FIG. 1a

the patent states that:

- "... the UV light can only pass through the gaps 18 between the absorbing regions ... The absorbing regions 14 prevent any radiation from getting to the stripes of the second indicia 13." (paragraph [0027], underlining by the board), and
- each absorbing region "prevents the UV light from reaching ... the first indicia" (paragraph [0028]).

In other words the absorbing material/region has to be such that it absorbs virtually all the radiation (i.e. the "form of radiation" of feature 5) it receives, and feature 6 is understood accordingly.

#### 1.4 Feature 7

Feature 7 requires the absorbing material not to absorb visible light. If the feature is interpreted by analogy to feature 6, this means that the absorbing material/region does not absorb virtually all the visible light. As a consequence, the absorbing material is at least translucent at some frequencies within the spectrum of visible light. The board interprets the feature accordingly.

#### 1.5 Feature 8

Feature 8 requires the absorbing material to be applied "in a pattern comprising a plurality of repeating elements similar to the elements of the first indicia". This raises several questions.

The first question is whether it is the pattern or the elements that have to be similar. The most natural interpretation of the feature is that the pattern comprises a plurality of elements and that these elements are similar to the elements of the first indicia. The board's interpretation of the expression "repeating elements" is given in point 1.1 above.

The patent does not offer a definition of "similar". The Oxford English Dictionary defines "similar" as "having a significant or notable resemblance or likeness in appearance, form, character, quantity, etc. to something stated or implied (though generally without being identical); of a like nature or kind". The term is vague and, as a consequence, has to be given its broadest technically meaningful interpretation.

When considering what exactly the term is meant to convey in the context of the invention, the skilled person would have referred to the description of the patent. Similarity is mentioned only in the context of the various embodiments in paragraphs [0023], [0024], [0037] and [0039]. These similar structures are structures of similar shape and arrangement. The skilled person would have understood that the claimed similarity is not just of any kind but has to be of such a kind that the claimed effect, i.e. the provision of a directional teller-assist security feature (see paragraph [0015]) that fluoresces differently, depending on where a lamp is positioned with respect to the device (see paragraph [0030]), is obtained. To put things differently, a security device that does not demonstrate this effect, although there arguably is some kind of similarity (e.g. of chemical nature etc.) of the repeating elements, is not covered by claim 1.

2. Sufficiency of disclosure

It was argued that the invention was not sufficiently disclosed for it to be carried out by the skilled person, on several counts.

2.1 "... when excited by a form of radiation ..."

The core objection appears to be that the patent only discloses materials that emit coloured visible light when excited by UV radiation, and that it does not teach the skilled person how to carry out the invention using radiation outside the UV spectrum, such as gamma rays, X-rays, UV and infrared radiation, microwaves and radio waves.

In point 2.2.1 of the decision under appeal, the opposition division dismissed this argument by referring to the skilled person's common general knowledge and by pointing out that it was only necessary to disclose one way of performing the invention.

The board cannot see any fault in the opposition division's reasoning. The patent discloses only one way of carrying out the invention, but the skilled person would be able to go beyond this embodiment, e.g. in the infrared range, without difficulty. It may be true that the skilled person would not be able to carry out the invention using gamma radiation or radio waves, but the feature "a form of radiation" should not be interpreted so broadly: the skilled person would not seriously consider the use of such types of radiation in the context of the invention (see point 1.2 above). As a consequence, this objection is unfounded.

## 2.2 Missing essential features

It was argued that claim 1 lacked several essential features:

- Based on paragraph [0030], the skilled person would understand that the size of the elements of the indicia and of the absorbing layer, and the thickness of the spacer layer, are inextricably linked. According to the appellant, this link is not suitably expressed by the term "similar" in claim 1.
- There must be gaps between the elements of the first indicia, whether or not they are occupied by elements of a second indicia. If the first indicia was continuous, it would not be possible to perceive a visual difference depending on the direction of illumination.
- The second indicia should be of a different colour (or colourless).
- At least one of the indicia has to be capable of emitting visible light.

The opposition division dealt with these objections in point 2.2.3 of the decision under appeal. It based its reasoning on Guidelines F-IV, 6.4 ("Lack of support vs. insufficient disclosure") and found that none of the allegedly missing features were disclosed as essential and were mandatory for carrying out the invention.

The absence of essential features from a claim is not decisive for the sufficiency of disclosure of the invention, because the examination of whether the invention is sufficiently disclosed has to be performed on the basis of the patent (or application, as the case

may be) as a whole. The jurisprudence of the boards of appeal relates the requirement that a claim has to specify all essential features to Article 84 EPC and not to Article 83 EPC (see "Case Law of the Boards of Appeal of the EPO", 9<sup>th</sup> edition, 2019, II.A.3.2). This is also expressed in Guidelines F-IV, 6.4:

"... where a technical feature is described and highlighted in the description as being an essential feature of the invention, to comply with Art. 84 this feature must also be part of the independent claim(s) defining the invention ..."  
(underlining by the board)

Therefore, the insufficiency objection based on the absence of essential features is unfounded.

### 2.3 Conclusion in respect of sufficiency of disclosure

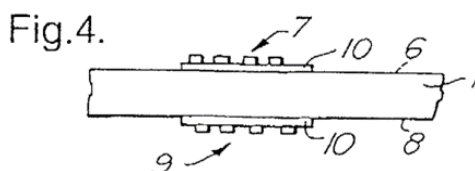
The objection under Article 83 EPC that the invention is not sufficiently disclosed for it to be carried out by the skilled person is unfounded.

### 3. Novelty over document D2

Document D2 discloses security devices for use with documents of value (page 1A, lines 3 and 4) and describes a solution to problems related to so-called "see-through" features, in which complementary images are provided on each side of a sheet precisely registered relative to one another such that when the sheet is held up to the light, the image on the back will fit exactly into spaces within the image on the front (see page 1A, lines 17 to 23, and page 3, lines 24 to 35).

According to the opposition division (see page 7 of the decision under appeal), document D2 discloses a:

"security device (see figure 4) comprising one at least partially light transmitting spaced layer (1, see page 5, last two lines and page 10, lines 10-12), on one side of which are formed first indicia (7 or 9), said first indicia comprising a plurality of repeating elements and being formed from a material which emits a coloured visible light (see page 10, lines 31-33) when excited by a form of radiation ("ultraviolet light"), and on an opposing side of the spacer layer is a second material (7 or 9), the second material being applied in a pattern comprising a plurality of repeating elements similar to the elements of the first indicia and having gaps between the elements"



The opposition division reached the conclusion that document D2 did not disclose features 6 and 7, according to which the absorbing material absorbs the radiation but not visible light (see the first paragraph on page 8 of the decision under appeal).

The opposition division considered the fifth paragraph on page 10 of document D2, which states:

"In a particularly preferred arrangement, one or more of the colours could be fluorescent so that they are only visible in ultraviolet light."

but found that although there had to be some absorption of the UV light, it was not disclosed that substantially all of the UV light was absorbed. The board shares this view.

The opposition division went on to state that the above passage disclosed features 5 and also (surprisingly, when compared with the first paragraph on page 8 of the decision under appeal) 6 and 7, but that it was not disclosed in document D2 that both the colours or indicia 7 and 9 exhibited features 5 to 7. The board does not find this consideration very relevant or helpful.

The board cannot find any fault with the finding expressed in the first paragraph on page 8 of the decision under appeal. The appellant's counter-argument appears to be based on an interpretation of features 6 and 7 that the board cannot endorse, namely that it is sufficient that some (rather than virtually all) radiation is absorbed for features 6 and 7 to be fulfilled (see points 1.3 and 1.4 above).

Thus, the subject-matter of claim 1 is new over the disclosure of document D2 because this document does not clearly and unambiguously disclose feature 6 as interpreted by the board (see point 1.3 above), Article 54(1) and (2) EPC.

#### 4. Inventive step

In its examination of inventive step, the board uses the problem-solution approach.



The opposition division's reasoning with respect to inventive step is found in point 2.4 of the decision under appeal.

#### 4.1 Starting from document D1

Document D1 deals with cards, such as credit cards, which are at least in part transmissive for visible light (see paragraph [0001]), and in particular cards that comprise UV-excited security indicia and card layers that also contain a component that fluoresces under UV light.

##### 4.1.1 Suitability as a starting point

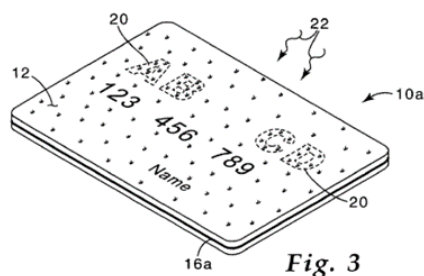
Document D1 belongs to the same technical field (security features for documents of value) as the patent and constitutes a suitable starting point.

##### 4.1.2 Disclosure of document D1

According to the opposition division (see point 2.3 of the decision under appeal), document D1 discloses a:

"security device (see figures 3 and 4 or 5) comprising one at least partially light transmitting spaced layer (the layers must be at least partially light transmitting; see claim 1 of D1, line 1), on one side of which are formed first indicia (20), said first indicia comprising a plurality of repeating elements (letters "A" to "D") and being formed from a material which emits a coloured visible light ("fluorescence in the visible wavelength range"; see page 3, column 1, lines 8-15) when excited by a form of radiation ("UV"; see page 3, column 1, lines 8-15), and an

absorbing material ("UV blocking material ... being UV absorbing"; see lines 4 and 5 of § 38) which absorbs the said radiation (said radiation is UV) but not visible light (see line 1 of claim 1 of D1), the absorbing material being applied in a pattern (see § 46, lines 3, 4) comprising a plurality of repeating elements and having gaps between the elements (this is generally the case with a discontinuous patterned fashion) "



#### 4.1.3 Differences

The opposition division found that document D1 did not disclose features 6 (because the absorbing layer is not on the opposing side of the spaced layer) and 8 (because there is no similarity between the pattern and the elements of the first indicia).

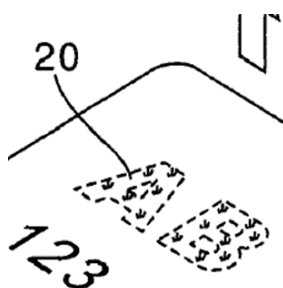
The parties agreed that document D1 did not disclose feature 8. The appellant expressed the opinion that it also disclosed feature 6. The respondent considered feature 4 to be a further distinguishing feature.

##### (a) Feature 4

Feature 4 requires the first indicia to comprise a plurality of repeating elements. The opposition division saw such repeating elements in the letters "A" to "D" shown in Fig. 3. The respondent objected that

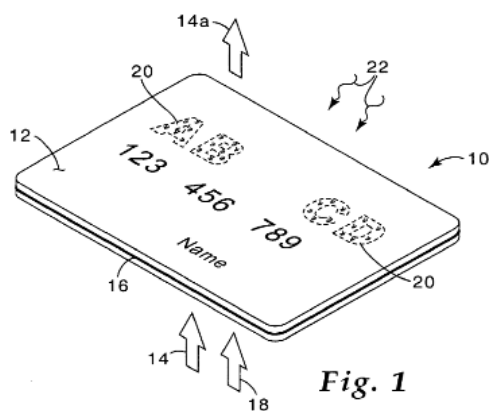
these letters were not repeating elements, but distinct different elements, and that paragraph [0005] suggested that they could be "a pattern, text, logos, symbols and graphics", but did not disclose a pattern made up of repeating elements. The board agrees that the letters as such do not constitute a direct and unambiguous disclosure of repeating elements.

It could be argued that each of the indicia 20 in Fig. 1 or 3 (i.e. each letter A to D) comprises a plurality of recurrent elements.

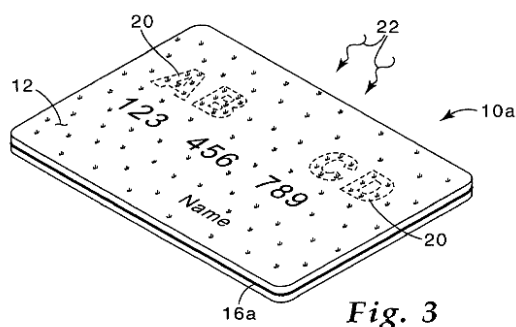


Detail of Fig. 1 of document D1

However, these elements are not to be understood as building blocks of the indicia 20, but rather indicate that their material is fluorescent. This can be seen when Fig. 1



is compared with Fig. 3



which shows a card in which the IR filter "inadvertently include[s] a component that fluoresces under UV light" (see paragraph [0025]).

Thus, document D1 does not directly and unambiguously disclose feature 4.

(b) Feature 6

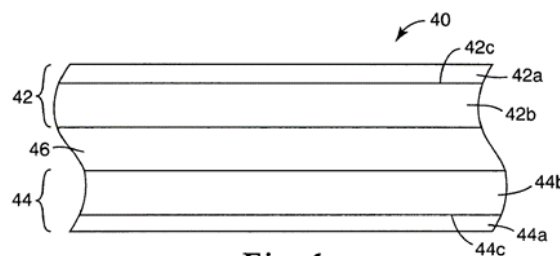
The appellant referred to paragraph [0046] and its statement that the UV blocking material can be added

"... nonuniformly over the card area, such as in a discontinuous or patterned fashion in an otherwise uniform layer ... The nonuniform UV blocking material in combination with the fluorescing IR filter can be used to provide a secondary security indicia, which can be used in addition to the original security indicia or which can even replace the original security indicia." (underlining added)

Paragraph [0047] adds that the non-uniformity of the UV blocking material is most readily obtained

"... by simply applying the UV blocking material by a printing process or the like to one or more of the other layers of the card construction."  
(underlining added)

According to the appellant, document D1 therefore clearly anticipates locating the UV blocking material at any interface in the card structure, which would include on an opposing side of the primary cardstock layer 42b, for example.



**Fig. 4**

The appellant also referred to the statement in paragraph [0048] according to which

"The UV blocking material can alternatively be printed on one or both outer surfaces of the IR filter laminate."

According to the appellant, this would again locate UV blocking material on an opposing side of primary cardstock layer 42b with respect to the original security indicia located at the interface 42c.

Therefore, although it arguably is not disclosed in combination with the other features of claim 1, this feature as such is at least suggested in document D1 and therefore cannot justify an inventive step being involved.

(c) Conclusion

The subject-matter of claim 1 differs from the disclosure of document D1 at least by features 4 and 8.

4.1.4 Objective technical problem

The fact that the security device from claim 1 comprises a plurality of repeating elements (feature 4) and absorbing material arranged in a similar pattern (feature 8, interpreted as explained in point 1.5 above) results in directional teller-assist optical effects that increase the protection against counterfeiting.

4.1.5 Obviousness

The appellant has not demonstrated in a persuasive manner that the skilled person, starting from the device of document D1 and seeking to improve its protection against counterfeiting, would have envisaged providing features 4 and 8. In particular, the appellant has not explained why the skilled person would have provided repeating elements. Its argument concerning feature 8 is based on an interpretation of the feature that the board cannot endorse (see point 1.5). As a consequence, the inventive step objection based on document D1 fails.

4.2 Starting from document D2

4.2.1 Differences

As pointed out above (see point 3.), document D2 does not disclose feature 6.

#### 4.2.2 Objective technical problem

The opposition division considered that the objective technical problem solved by the distinguishing feature was to enhance security.

The appellant offered a slightly more specific definition, namely to increase the visual impact of the security device taught by document D2. The board adopts this formulation.

#### 4.2.3 Obviousness

The question to be answered by the board is whether the skilled person, starting from the security device in Fig. 4 of document D2 and faced with the problem of increasing the visual impact of the device, would find it obvious to replace the indicia 7 or 9 with a material that absorbs virtually all of the UV radiation it receives.

The appellant pursued several lines of argument to show that such a replacement was obvious.

##### (a) Routine experimentation

The appellant argued that the skilled person would, as a matter of routine experimentation, make the fluorescent indicia of D2 sufficiently thick and/or of a material which otherwise absorbs "substantially all of the radiation", with the inevitable result that they would arrive at the combination of features recited in claim 1. This argument is unpersuasive because it boils down to a mere assertion without any supporting reasoning.

(b) Document D1

The appellant referred to the statement on page 10, lines 3 to 5, of document D2, according to which "an obscuring material" may be provided "to restrict the visibility of the second indicia when the substrate is viewed in reflection from the one side". However, the board understands this statement to refer to the alternative described from page 6, line 8 onwards, in which the substrate carries an obscuring material aligned with the second indicia (see page 6, lines 12 and 13). The suggested modification appears to lie in providing additional (obscuring) material rather than replacing the second indicia with obscuring material.

Be that as it may, the appellant argued that the skilled person would find the claimed solution in document D1.

The board understands the core teaching of document D1 to consist in providing a UV blocking material between the security indicia and the fluorescent layer so that the security indicia is clearly visible when the card is exposed to UV light (see abstract).

Arguably the application of this teaching to the device in Fig. 4 of document D2 would result in a UV blocking material being provided somewhere between the indicia 7 and 9. The board doubts that the skilled person would seriously envisage providing such a layer as it would jeopardise the effect sought in document D2, i.e. generating an image that combines the images of the first and second indicia. Assuming that the skilled person would nevertheless provide such a layer, it is not apparent to the board that this would result in



subject-matter falling within the scope of claim 1. The appellant's argument is based on hindsight.

(c) Documents D4 to D10

According to the appellant, as each of documents D4 to D10 discloses materials that absorb radiation, "the subject matter of claim 1 also lacks inventive step over D2 in light of any of D4 to D10"

(see page 11, first paragraph of the statement of grounds of appeal); however, the board is unable to consider such a sweeping statement to constitute a substantiated attack. It is not up to the board to examine unsubstantiated suggestions and fill in the gaps left by the appellant. Therefore, this attack is disregarded under Article 12(2) and (4) RPBA 2007, which applies in view of Article 25(2) RPBA 2020.

#### 4.2.4 Conclusion

The appellant has not shown in a persuasive manner that the subject-matter of claim 1 is obvious over the disclosure of document D2 alone or in combination with the teaching of document D1.

#### 4.3 Starting from document D3

Document D3 discloses security structures for documents of value.

The opposition division has not provided a detailed analysis of which of the features of claim 1 are disclosed in document D3.

#### 4.3.1 Differences

The appellant considers that the only difference between the subject-matter of claim 1 and document D3 lies in that the second indicia in document D3 does not absorb radiation, i.e. feature 6 (a detailed argument is found in points 22.1 to 22.15 of the notice of opposition). The respondent argued that feature 5 was not disclosed either.

##### (a) Feature 5

Feature 5 requires the first indicia to be formed from a material which emits a coloured visible light when excited by a form of radiation.

In point 22.6 of its notice of opposition, the opponent (now appellant) wrote:

"The portions of the fluorescent composition 15 and 16 that covers the transparent second portions 12 of D3 are considered to be the first indicia according to claim 1 of the Opposed Patent. These portions emit a coloured visible light when excited by a form of radiation, as required by claim 1."

The respondent argued that whilst there was a layer 15 which is formed from a fluorescent composition (paragraph [0117]), it was a layer that covered the second indicia and the second indicia were not formed from it. According to the respondent, the layer 15 itself could not provide the indicia from claim 1 as it is a continuous layer and does not form indicia

comprising a plurality of repeating elements. The board shares this view.

(b) Conclusion

Claim 1 differs from the disclosure of document D3 by features 5 and 6.

4.3.2 Obviousness

The appellant's argument only deals with the obviousness of feature 6 and relies on the appellant's argument in respect of document D2, which the board found unpersuasive. As a consequence, the appellant has not established that the subject-matter of claim 1 is obvious to the skilled person in light of document D3 in view of documents D1 or D4 to D10.

5. Overall conclusion

The invention is sufficiently disclosed for it to be carried out by the skilled person in accordance with the requirements of Article 83 EPC (see point 2.). Moreover, it has not been demonstrated in a persuasive manner that the subject-matter of claim 1 lacks novelty or inventive step in view of documents D1 to D3 (see points 3. and 4.). Thus, the provisions of Articles 54(1) and 56 EPC are equally complied with.

As all the objections raised by the appellant fail, there is no obstacle to maintaining the patent on the basis of the claims of the main request.

Consequently, 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