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**Datasheet for the decision
of 15 April 2015**

Case Number: T 2541/10 - 3.2.05

Application Number: 00930140.9

Publication Number: 1198357

IPC: B42D15/10

Language of the proceedings: EN

Title of invention:

Diffraction surfaces with color shifting backgrounds

Patent Proprietor:

JDS Uniphase Corporation

Opponents:

De La Rue International Limited
OVD Kinegram AG
Giesecke & Devrient GmbH

Headword:

Relevant legal provisions:

EPC 1973 Art. 54, 56, 83, 84
EPC Art. 123(2), 123(3), 113(1), 114(2)
RPBA Art. 12(1), 13(1)

Keyword:

Amendments - clarity (yes) - added subject-matter (no) -
broadening of claim (no)
Sufficiency of disclosure - (yes)
Novelty - main request (no)
Inventive step - auxiliary request 1 (no)
Admittance of auxiliary requests 2 and 3 - no
Admittance of submission of party - yes

Decisions cited:

Catchword:



**Beschwerdekammern
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Chambres de recours**

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Case Number: T 2541/10 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 15 April 2015

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Decision under appeal: **Decision of the opposition division of the
European Patent Office posted on 21 October 2010
revoking European patent No. 1198357 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman M. Poock
Members: H. Schram
 M. J. Vogel

Summary of Facts and Submissions

I. On 20 December 2010 the appellant (patent proprietor) lodged an appeal against the decision of the opposition division, posted on 21 October 2010, by which European patent No. 1 198 357 was revoked inter alia on the grounds that that claim 1 of the main request filed on 9 August 2010, and claim 1 and claim 3 of the first and second auxiliary requests, respectively, filed during the oral proceedings before the opposition division held on 9 September 2010, did not meet the requirements of Article 123(3) EPC, and that the subject-matter of claims 1 of the third and fourth auxiliary requests also filed during said oral proceedings was not new, Article 54 EPC 1973. The statement setting out the grounds of appeal was filed on 25 February 2011.

II. Oral proceedings were held before the board of appeal on 15 April 2015. The representative of respondent I (opponent 01) informed the board with letter of 9 March 2015 that respondent I did not wish to be represented during the oral proceedings.

III. The appellant requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the main request or the auxiliary requests 1 and 2, all filed with the letter of 13 March 2015, or on the basis of auxiliary request 3, filed during the oral proceedings.

Respondents I, II and III (opponents 01, 02 and 03) requested that the appeal be dismissed.

IV. The following documents were inter alia referred to in the appeal proceedings:

D1 US 5,700,550;

D2 US 4,838,648;

D23 US 5,907,436;

D25 EP-A 0 756 945;

D27 EP-B 0 698 256;

D28 WO 97/19820.

V. Claims 1 and 7 of the main request read as follows:

"1. A security article (10, 40, 60) characterised in that the security article comprises:

a light transmissive substrate (14) having a first surface and an opposing second surface, the first surface having an optical interference pattern (15); and

a color shifting optical coating (16, 26) on the second surface of the substrate (14), directly under the optical interference pattern (15);

wherein the color shifting optical coating (16, 26) provides an observable color shift as the angle of incident light or viewing angle changes."

"7. A method of forming a security article (10, 40, 60), comprising the steps of:

providing a light transmissive substrate (14) having a first surface and an opposing second surface, the first surface having an optical interference pattern (15); and

forming a color shifting optical coating (16, 26) on the second surface of the substrate (14), directly under the optical interference pattern (15);

wherein the color shifting optical coating (16, 26) provides an observable color shift as the angle of incident light or viewing angle changes.”

Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the expression “wherein the color shifting optical coating (16) is a multilayer optical interference film including an absorber layer (18) on the second surface of the substrate (14), a dielectric layer (20) on the absorber layer (18), and a reflector layer (22) on the dielectric layer (20)” has been added at the end of the claim, and in that the reference signs 26, 40 and 60 have been deleted.

VI. The arguments of the appellant, in writing and during the oral proceedings, can be summarized as follows:

The submissions filed by respondent II on 16 March 2015 should not be admitted or considered by the board, since they were not filed within the time limit for making written submissions, namely at least one month before the date set for oral proceedings.

The main request and auxiliary request 1 and 2 filed on 13 March 2015 were filed in direct response to the communication of the board. The amendments contained in said requests were relevant for a resolution of the issues to be discussed at the oral proceedings. The board was requested to exercise its discretion in admitting these requests into the appeal proceedings.

Claim 1 as granted encompassed two embodiments, one whereby the color shifting optical coating was located on the second surface of the substrate, directly under the optical interference pattern (as shown in Figure 1A of the patent), and one whereby the color shifting

optical coating was located on the first surface of the substrate, directly above the optical interference pattern (as shown in Figure 1B of the patent). The latter embodiment was no longer claimed in claim 1 of the main request. The amendments did not extend the protection conferred by the patent, Article 123(3) EPC and the amendments made during the examination proceedings did not introduce subject-matter which extended beyond the content of the application as filed. The interpretation of claim 1 of the main request was straightforward. The expression "directly under the optical interference pattern" in said claim 1 meant that the color shifting optical was in direct contact with the substrate, and not "above the optical interference pattern", ie not on the first surface of the substrate, but "under the optical interference pattern", ie on the second surface of the substrate. Claim 1 of the main request was also clear, Article 84 EPC 1973, and its subject-matter was disclosed in the patent in a manner sufficiently clear und complete for it to be carried out by a person skilled in the art, Article 83 EPC 1973.

The subject-matter of claim 1 of the main request was new with respect to documents D25, D1, D23, D27 and D28. In particular, the metallic layer mentioned in claim 8 of document D25 was a separate layer applied to the copy protected document (substrate), ie it was not "a first surface" of the substrate. For that reason alone the novelty objection failed.

The subject-matter of claim 1 of auxiliary request 1 involved an inventive step with respect to document D25. A combination of documents D25 and D2 did not provide the claimed solution. In particular, although document D2 showed an absorber layer 18, this was not

directly on the substrate. Hence the skilled person would have to turn the reflector/dielectric/absorber structure of document D2 upside down, so that the absorber layer 18 was on a surface of the substrate, which he would only do with the benefit of hindsight.

The additional feature of claim 1 of auxiliary request 2, viz "and wherein the reflector layer (22) is segmented so as to allow for partial viewing of underlying information" further distinguished the subject-matter of said claim from the prior art. The additional feature of claim 1 of auxiliary request 3, viz "[security article] suitable for being transferred and attached to another object" limited the security article according to claim 1 of auxiliary request 1 to security articles for application in documents, such as bank notes, credit cards etc., and no longer encompassed said documents themselves. Since document D25 was directed to a security document, it was no longer a relevant starting point for assessing inventive step. The board was therefore requested to exercise its discretion in admitting auxiliary requests 2 and 3 into the appeal proceedings.

VII. The arguments of the respondents, in writing and during the oral proceedings, can be summarized as follows:

The submission of respondent II filed on 16 March 2015 was filed in time, since the time limit for making written submissions set by the board, which nominally expired on Sunday 15 March 2015, extended to the first working day thereafter, Rule 134(1) EPC.

Auxiliary request 1 and 2 filed by the appellant on 13 March 2015 were filed after oral proceedings had been arranged and should not be admitted. In particular,

claim 1 of auxiliary request 2 raised issues for which the time period of only one month was found to be too short for making a further search of the new feature taken from the description, so that the respondents could not be expected to deal with said request without adjournment of the oral proceedings.

The wording "under the optical interference pattern" in claim 1 of the main request was not clear, Article 84 EPC 1973. Whilst the color shifting optical coating of the security article shown in Figure 1A of the patent in suit was located "under" the optical interference pattern, this was no longer the case when the security article was turned around (rotated 180°), resulting in the coating being "above" the optical interference pattern.

Claim 1 as granted encompassed two embodiments. The embodiment whereby the color shifting optical coating was located on the first surface of the substrate, directly above the optical interference pattern (as shown in Figure 1B of the patent), was the only embodiment that was disclosed in the patent in suit in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Articles 100(b) and 83 EPC 1973). This embodiment no longer fell within the ambit of claim 1 of the main request. The main request was directed to an undisclosed embodiment whereby the color shifting optical coating was located on the second surface of the substrate, directly under the optical interference pattern. This embodiment was not shown in Figure 1A of the patent, since the color shifting optical coating was located directly under the optical interference pattern. The requirements "coating (16, 26) on the second surface" and "directly under the optical interference pattern" were contradictory

requirements. The coating could not be "on the second surface" and simultaneously "directly under the optical interference pattern" since the optical interference pattern was located in the first surface. In view of these contradictory requirements the claimed invention was not disclosed in a manner sufficiently clear und complete for it to be carried out by a person skilled in the art (Articles 100(b) and 83 EPC 1973), and the subject-matter of claim 1 of the main request was not clear. Moreover, since claim 1 of the main request was directed to an undisclosed embodiment it contravened the requirements of Article 123(2) EPC, and since it no longer claimed the embodiment whereby the color shifting optical coating was located on the first surface of the substrate it moreover contravened the requirements of Article 123(3) EPC.

The subject-matter of claim 1 of the main request was not new vis-à-vis documents D25, D1, D23, D27 and D28. The term "substrate" in said claim could consist of one layer or multiple layers, and could be as thin as 5 μm (column 5, lines 22 to 26), it was not necessarily a support or carrier substrate ("Trägerschicht"). Document D25 disclosed a security document (see claim 8 referring to claim 6) having a substrate comprising the transparent substrate mentioned in claim 6 and the layer having a metallic effect mentioned in claim 8, the first surface of said substrate having an optical interference pattern (the hologram of the layer having a metallic effect) and layer showing light interference or color shift effects on the opposing surface of said substrate. Document D25 therefore disclosed all the features of claim 1 of the main request.

The subject-matter of claim 1 of auxiliary request 1 was not new vis-à-vis documents D1 and D23, and did not

involve an inventive step with respect to a combination of documents D25 and D2.

Auxiliary request 2 filed by the appellant on the final date fixed by the board for making written submissions in preparation for the oral proceedings and auxiliary request 3 filed by the appellant at the end of the oral proceedings should not be admitted at this stage of the proceedings, since the new feature taken from the description would in any case require an adjournment of the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.
2. *Procedural issues*
 - 2.1 The appellant requested that the submissions filed by respondent II on 16 March 2015 not be admitted or considered by the board, since they were filed after the final date for making written submissions.

Rule 116 EPC stipulates that when issuing the summons for oral proceedings a final date for making written submissions in preparation for the oral proceedings shall be fixed and that Rule 132 EPC relating to periods specified by the EPO shall not apply.

In the present case the communication annexed to the summons stated that amendments to a party's case should be filed at least one month before the date set for oral proceedings in order to give the board and the other party sufficient time to prepare for the oral proceedings. The date set for the oral proceedings was

15 April 2015, thus the final date for making written submissions nominally expired on Sunday 15 March 2015.

The letter filed by respondent II on the following Monday was therefore filed after the final date for making written submissions.

However, the late-filing of the submission of respondent II is not a valid reason to disregard said submission, as explained below.

- 2.2 Article 114(2) EPC provides that the European Patent Office may disregard facts or evidence which are not submitted in due time (see also Rule 116(1) EPC, last sentence). While Article 114(1) EPC refers to "facts, evidence and arguments", the discretionary power given to the departments of the EPO under Article 114(2) EPC or Rule 116(1) EPC does not include arguments not submitted in due time.

The letter filed by respondent II on 16 March 2015 was a reply to the communication of the board annexed to the summons and does not contain facts, evidence or requests which could have been presented or were not admitted in the first instance proceedings (cf Article 12(4) RPBA). Whilst in said letter arguments are presented, these arguments, even if they were new, are not considered to constitute an amendment to a party's case in the sense of Article 13 RPBA.

It follows from the above provisions of the EPC and of the RPBA that the board has no discretion to hold inadmissible late-filed arguments presented by a party. On the contrary, parties to proceedings before the EPO have a fundamental right to present their comments or

arguments on all grounds and/or evidence on which the final decision is based, cf Article 113(1) EPC.

- 2.3 The submissions filed by respondent II on 16 March 2015 are therefore duly considered by the board. It may be noticed that an opposite outcome would not make sense, since, irrespective of whether or not said submissions had been filed in time, or had not been filed at all, in each case respondent II would have had an opportunity during the oral proceedings to present its comments or arguments.

MAIN REQUEST

3. *Admissibility of the main request*

The set of claims 1 to 9 filed as main request on 13 March 2015 differs from the set of claims 1 to 11 of the sole request filed with the statement setting out the grounds of appeal in that two dependent claims have been deleted and in that the order of the dependent claims has been brought into conformity with the order of the dependent claims as granted. Independent claims 1 and 7 of the main request correspond to independent claims 1 and 9 of said sole request.

For this reason the main request is admitted into the appeal proceedings, cf Articles 12(1) and 13(1) RPBA.

4. *Interpretation of claim 1 of the main request*

- 4.1 Claims 1 and 7 of the main request contain the features:

- (i) a light transmissive substrate (14) having a first surface and an opposing second surface, the first

surface having an optical interference pattern (15); and

(ii) a color shifting optical coating (16, 26) on the second surface of the substrate (14), directly under the optical interference pattern (15).

The first half-sentence of feature (ii) requires that the color shifting optical coating is "on the second surface of the substrate (14)". This implies that there is no layer in between the color shifting optical coating and the substrate. The second half-sentence of feature (ii), viz ", directly under the optical interference pattern (15)", merely confirms this.

The cross-section of a security article defined by features (i) and (ii) therefore consists of the following elements in the specified order: (1) a first surface of the substrate having an optical interference pattern, (2) the part of the substrate extending between the first surface and a second surface, (3) the second surface and (4) a color shifting optical coating (cf Figure 1A of the patent in suit).

4.2 Respondents I and II have submitted that the second half-sentence of feature (ii) must be interpreted as meaning that the coating is located "directly below the optical interference pattern" with nothing in-between.

However, this would lead to a cross-section of the security article consisting of elements (1), (4), (2) and (3), cf point 4.1 above. Hence the board is of the opinion that the person skilled in the art would not interpret said second half-sentence of feature (ii) in the sense as the respondents did, since that would contradict the first half-sentence of said feature,

namely that "a color shifting optical coating (16, 26) [is applied] on the second surface of the substrate (14)".

4.3 It may be noticed that the substrate can be made of one layer or multiple layers, cf column 5, lines 24 to 26, of the patent in suit. If multiple layers define the substrate, the first and second surfaces pertain to the substrate thus defined.

5. *Allowability of the amendments, Article 84 EPC 1973 and Article 123 EPC, and sufficiency of disclosure, Article 83 EPC 1973*

In the communication annexed to the summons the board stated its provisional opinion that, based on the interpretation of the independent claims of the main request coinciding with point 4 above, said claims met the requirements of Article 84 EPC 1973, of Articles 123(2) and 123(3) EPC, and of Article 84 EPC 1973 (see points 5.5 to 5.7 of said communication). This opinion was not questioned, and the board does not see any reason to depart from it.

6. *Ground for opposition under Article 100(a) EPC 1973 in combination with Article 54 EPC 1973*

Document D25 discloses (see column 5, lines 45 to 56, column 7, lines 1 to 12, and claim 6) a copy protected document comprising a transparent or translucent substrate provided with a means combining an information (or means) showing a colour shift effect and an information (or means) showing a metallic effect. For example, one face of the document may carry a layer showing light interference effects while the opposite face carries a layer having a metallic effect,

cf column 7, lines 9 to 12, and claims 6 and 8. The metallic effect can be provided inter alia by transferring a hologram with an aluminium background (column 1, lines 39 to 42).

The layer having a metallic effect (layer 1) and the substrate (layer 2) form a substrate made of multiple layers (here: two layers) in the sense of the claim 1 of the main request, cf point 4.3 above. The copy protected document disclosed in document D25 is thus a security article comprising a light transmissive substrate (layer 1 together with layer 2), the first surface of said substrate (first surface of layer 1) having an optical interference pattern (here: hologram) and a color shifting optical coating (layer showing light interference effects) on the opposing second surface of said substrate (opposing surface of layer 2), directly under the hologram, whereby the layer showing light interference effects provides an observable color shift as the angle of incident light or viewing angle changes (column 6, lines 4 to 16).

The subject-matter of claim 1 of the main request is therefore not new with respect to document D25.

AUXILIARY REQUEST 1

7. *Admissibility of auxiliary request 1*

Product claim 1 of auxiliary request 1 is a combination of independent claim 1 and an additional feature corresponding to dependent claim 6 of the main request. Method claim 4 of auxiliary request 1 is a combination of independent method claim 7 of the main request and method features that correspond to the product features of claim 6 of the main request. The additional feature

is present in all the requests on which the decision under appeal is based (see point I. above).

For this reason auxiliary request 1 is admitted into the appeal proceedings, cf Article 13(1) RPBA.

8. *Ground for opposition under Article 100(a) EPC 1973 in combination with Articles 54 and 56 EPC 1973*

8.1 Claim 1 of auxiliary request 1 differs from claim 1 of the main request substantially in that the expression "wherein the color shifting optical coating (16) is a multilayer optical interference film including an absorber layer (18) on the second surface of the substrate (14), a dielectric layer (20) on the absorber layer (18), and a reflector layer (22) on the dielectric layer (20)" has been added at the end of the claim.

8.2 Document D25 represents the closest state of the art. The subject-matter of claim 1 of auxiliary request 1 differs from the security article known from document D25 in that "the color shifting optical coating (16) is a multilayer optical interference film including an absorber layer (18) on the second surface of the substrate (14), a dielectric layer (20) on the absorber layer (18), and a reflector layer (22) on the dielectric layer (20)".

Document D25 discloses that color shift or light interference effects may be obtained by for example light interference pigments (column 2, lines 15 to 27, and column 2, lin 53, to column 3, line 4). The person skilled in the art starting from document D25 and seeking an alternative means showing a color shift effect or layer showing light interference effects,

will readily find suitable means using his or her general technical knowledge.

The construction of a color shifting optical coating as a multilayer optical interference film or coating comprising an absorber layer, a dielectric layer and a reflector layer is known in the art, see eg document D2. This document discloses in column 1, line 56, to column 2, line 20, a multilayer interference coating 16 consisting of an absorber layer 19, a dielectric layer 18 and a reflector layer 17 seen in the direction of the incident light. In the judgment of the board, it was obvious to the person skilled in the art to use the color shifting optical coating known from document D2 as a layer showing light interference effects in the copy protected document known from document D25 (cf point 6 above).

The subject-matter of claim 1 of auxiliary request 1 therefore does not involve an inventive step.

- 8.3 With this state of affairs, there was no need for the board to examine whether or not the subject-matter of claim 1 of auxiliary request 1 is new with respect to documents D1 and D23.

AUXILIARY REQUESTS 2 AND 3

9. *Admissibility of auxiliary requests 2 and 3*

- 9.1 Claim 1 of auxiliary request 2 includes, as compared with claim 1 of auxiliary request 1, the additional feature "and wherein the reflector layer (22) is segmented so as to allow for partial viewing of underlying information". Since auxiliary request 2 was filed by the appellant after oral proceedings were

arranged, Article 13(3) RPBA applies. According to this provision, amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the board or the other party or parties cannot reasonably be expected to deal with without adjournment of the oral proceedings (emphasis added).

Auxiliary request 2 shifts the focus to facts not previously discussed in the opposition appeal proceedings, since the additional feature was not part of any of the requests filed in said proceedings.

Moreover, it may be noticed that the additional feature is taken from the description of the patent in suit, cf column 7, lines 17 to 28, in particular lines 17 to 21 (see also page 7, lines 23 to 25, of the published version of the application as filed). The concept of applying a metallic reflecting layer only partially to eg a diffractive structure with a view to allow partial viewing of information placed on a backing underlying said diffractive structure seems to be known per se from the prior art. For example, document D28 discloses that depending on whether base layer 8 and cover layer 9 are applied over the full surface area or only partially and whether they are dielectric or metallic in character, the surface of the subjacent document is at least partially visible (page 12, line 10 to 14, and Figure 9).

Whether the additional feature contributes to inventive step (regardless whether it is known in art or not) depends essentially on which document is taken as a suitable starting point for assessing inventive step. In the present case at least five documents qualify as documents, namely documents D25, D1, D23, D27 and D28,

can be considered as such starting point. The board cannot exclude that the time period between the filing of the request and the oral proceedings (ca. 20 working days) was too short for preparing a reply and/or for conducting an additional search, if necessary.

In the judgment of the board, the request therefore raises issues which the board and the respondents cannot reasonably be expected to deal with without adjournment of the oral proceedings.

For these reasons, auxiliary request 2 is not admitted into the appeal proceedings.

- 9.2 Auxiliary request 3 was filed by the appellant during the oral proceedings after the chairman had announced that claim 1 of auxiliary request 1 did not involve an inventive step.

Claim 1 of auxiliary request 3 is directed to "A security article suitable for being transferred and attached to another object" (amendment with respect to claim 1 of auxiliary request 1 underlined). It may be noticed that the additional feature is taken from the description of the patent in suit, cf column 10, lines 35 to 36 (see also page 11, lines 9 to 11, of the published version of the application as filed). Whilst it is appreciated that the motivation for the amendment is to define a security article in the form of a label, a tag, a ribbon, a security thread, and the like, for application in a variety of objects such as security documents, monetary currency, credit cards, merchandise, etc. (cf paragraph [0012] of the patent in suit), the wording of claim 1 of auxiliary request 3 does not exclude that the claimed security article is a security document, since a security document can be

laminated, ie it is suitable for being attached to another object (lamination sheet).

The reasons given in point 6.1 for not admitting auxiliary request 2 above apply to auxiliary request 3 as well. Since the request was filed at the end of the oral proceedings, the issues it raised could definitely not be dealt by the board and the respondents without arranging new oral proceedings.

Auxiliary request 3 is therefore not admitted into the appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Meyfarth

M. Poock

Decision electronically authenticated