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**D E C I S I O N**  
**of 3 July 2002**

**Case Number:** T 1083/00 - 3.2.5

**Application Number:** 93203473.9

**Publication Number:** 0657297

**IPC:** B41M 3/14

**Language of the proceedings:** EN

**Title of invention:**

Security document having a transparent or translucent support  
and containing interference pigments

**Patentee:**

AGFA-GEVAERT N.V. et al

**Opponent:**

Giesecke & Devrient GmbH

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 84, 56

**Keyword:**

"Clarity (yes)"  
"Inventive step (yes)"

**Decisions cited:**

-

**Catchword:**

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Case Number: T 1083/00 - 3.2.5

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.5  
of 3 July 2002

**Appellant:** Giesecke & Devrient GmbH  
(Opponent) Prinzregentenstr. 159  
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**Representative:** Klunker, Hans-Friedrich, Dr.  
Patentanwälte  
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**Respondent:** AGFA-GEVAERT N.V. et al  
(Proprietor of the patent) Septestraat 27  
B-2640 Mortsel (BE)

**Representative:** -

**Decision under appeal:** Interlocutory decision of the Opposition Division  
of the European Patent Office posted 22 August  
2000 concerning maintenance of European patent  
No. 0 657 297 in amended form.

**Composition of the Board:**

**Chairman:** W. Moser  
**Members:** P. E. Michel  
W. R. Zellhuber

## Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the interlocutory decision of the Opposition Division maintaining the patent No. 0 657 297 in amended form.

In the decision under appeal, it was held that the grounds of opposition submitted by the appellant under Article 100(a) (lack of novelty and inventive step) did not prejudice the maintenance of the patent as amended.

The following documents were referred to in the appeal proceedings:

D2: FR-A-2 429 292

D5: DE-A-38 10 015

D6: EP-A-0 490 825

D11: "Optica Acta", 1973, vol. 20, No. 12, pages 925 to 937.

II. Oral Proceedings were held before the Board of Appeal on 3 July 2002.

(i) The appellant requested that the decision under appeal be set aside and that the patent be revoked.

(ii) The respondent (patentee) requested that the appeal be set aside and that the patent be maintained on the basis of the following documents:

- (a) claims 1 and 29, submitted during oral proceedings, and claims 2 to 28 as granted; and
- (b) description, pages 2 to 16, submitted during oral proceedings; and
- (c) drawings, Figures 1 to 4, as granted.

III. Claim 1 of the sole request of the respondent reads as follows:

"A security document which contains at least one layer, a support, at least one image or pattern serving for identification purposes and at least one light interference pigment distributed uniformly or patternwise in or on at least one layer of said document, characterized in that said support is a transparent clear resin film support or such support containing small amounts of pigments or voids opacifying to some degree the support, with a visible light-blocking capacity less than 50% and in that said document, by the presence of said light interference pigment, has at least in certain areas a different color when viewed with light transmitted by the document in comparison with light reflected by the document."

IV. In written and oral proceedings, the appellant argued essentially as follows:

The term "visible light-blocking capacity" is unclear in the absence of a defined method of measurement. Whilst a MacBeth densitometer could be used, other methods of measurement may give different results. The

claim is thus unclear and therefore not allowable in view of Article 84 EPC.

Document D2 represents the closest prior art, and discloses a security document having all the features of the preamble of claim 1.

Starting from document D2, the problem to be solved is to increase the colour contrast. The use of a transparent or translucent support is an obvious solution to this problem.

Document D5 discloses a transparent information carrier, on the printed side of which a partially transparent or translucent reflective foil or metallic layer is provided. This document thus teaches the provision of an optically active layer on a translucent substrate.

Document D6 discloses an iridescent coating comprising a light interference pigment. There is thus no essential difference between an iridescent layer as disclosed in document D5 and a layer comprising a light interference pigment as specified in claim 1 of the patent in suit.

Document D11 discloses the use of optical interference coatings for inhibiting counterfeiting of security documents. Whilst a different colour effect is utilised, this document nevertheless teaches the use of a transparent window for the purpose of document authentication.

Thus the teaching of either document D5 or document D11 would lead the person skilled in the art to modify the

support of document D2 so that it is transparent.

Alternatively, document D5 can be regarded as the closest prior art. The subject-matter of claim 1 is only distinguished over the disclosure of this document in the use of the unclear parameter of the light-blocking capacity.

The subject-matter of claim 1 thus lacks an inventive step.

- V. In written and oral proceedings, the respondent argued essentially as follows:

The term "visible light-blocking capacity less than 50%" is clear and means that a maximum of 50% of the incident light is reflected or absorbed, and that therefore at least 50% of the incident light is transmitted. As is well known in the art, the amount of transmitted light can be measured using a densitometer. Regardless of what kind of densitometer is used, the results will be the same.

Document D2 represents the closest prior art.

Starting from document D2, the problem to be solved is to provide a security document which allows a simpler and more convenient security check.

Document D5 does not offer a solution to this problem. Rather, it is concerned with preventing the making of exact photocopies in a cost effective manner. Even if document D5 were to be combined with document D2, the skilled person would not arrive at the claimed invention. Rather, the teaching of document D5 would

lead to the incorporation of a highly reflective layer into the security document of document D2. Document D5 does not disclose the combination of a transparent support with an iridescent material. In a first embodiment, a transparent support is used with a metallic layer. In a second embodiment, an opaque support is used with an iridescent reflective layer.

The fact that document D6 refers to a layer containing a light interference pigment as being iridescent does not mean that the iridescent layer of document D5 also contains a light interference pigment. Optical multilayer coatings also exhibit iridescence and have a completely different structure.

The late-filed document D11 should not be admitted into the proceedings, since it is not prima facie relevant. In particular, the optical multi layer coatings are not light interference pigments. Document D11 also does not offer a solution to the problem of providing a security document which allows a simpler and more convenient security check.

The subject-matter of claim 1 thus involves an inventive step.

## **Reasons for the Decision**

### **1. *Late filed document D11***

Document D11 is the only prior art document which suggests utilizing transmitted light as a security element in a security document. It is thus relevant to the issue of inventive step and is admitted into the

procedure in accordance with Article 114(1) EPC.

2. *Amendments*

Claim 1 is amended as compared with the claim as granted by the introduction of features which are disclosed in the published version of the application as filed at page 3, lines 12 to 14; at page 4, lines 2 to 5, and at page 11, lines 30 to 32.

The amendments do not extend the protection conferred and are made in order to overcome a ground of opposition.

The amendments made to the claims thus comply with the requirements of Articles 123(2) and (3) as well as Rule 57a EPC. This was not disputed by the appellant.

3. *Clarity*

The expression "a visible light-blocking capacity less than 50%" is clear. As explained in the letter from the respondent dated 22 June 2001, this means that a maximum of 50% of the incident light is reflected or absorbed, and that therefore at least 50% of the incident light is transmitted. The person skilled in the art is aware of the fact that the amount of light can be measured using a densitometer and that the measurement can be restricted to visible light by the use of appropriate filters. There is no evidence to suggest that the selection of a particular model of densitometer will materially affect the measurement.

Thus, claim 1 is clear and satisfies the requirements of Article 84 EPC.



4. *Novelty*

None of the cited prior art documents discloses a security document containing a layer having at least one light interference pigment distributed therein and a support which is a transparent clear resin film support or such support containing small amounts of pigments or voids opacifying to some degree the support, with a visible light-blocking capacity less than 50%. The subject-matter of claim 1 is thus novel.

5. *Inventive step*

5.1 Closest prior art

The closest prior art is document D2, which discloses a security document having all the features of the preamble of claim 1. The security document of document D2 does not, however, comprise the following features:

- (i) a support which is a transparent clear resin film support or such support containing small amounts of pigments or voids opacifying to some degree the support;
- (ii) the support having a visible light-blocking capacity less than 50%;
- (iii) the document having, by the presence of the light interference pigment, at least in certain areas, a different color when viewed with light transmitted by the document in comparison with light reflected by the document.

Instead, document D2 is only concerned with supports of

paper for use as banknotes or other security documents, or of plastified paper for use as credit cards.

Document D2 teaches the use of at least one light interference pigment as a security element. The light interference pigment renders forgery more difficult by virtue of the fact that the apparent colour of such pigments varies with the angle at which the pigment is observed, such observation being carried out in reflected light (see page 1, lines 25 to 32).

The appellant has put forward an alternative argument according to which document D5 could also be considered to represent the closest prior art. Whilst this document discloses the use of a transparent substrate bearing an image, it is proposed to cover the image with a transparent or translucent reflective foil, a layer of vacuum deposited metal or similar coating (column 2, lines 56 to 62). It does not disclose the use of at least one light interference pigment, and it is not accepted that the reference to a "similar coating" would be understood by the skilled reader as implying the use of at least one light interference pigment, since the essential property which is relied upon to prevent forgery with the aid of a photocopier is the high degree of reflection of the layer applied to the support. The fact that document D6 refers to layers containing light interference pigments as being iridescent does not imply that the disclosure in document D5 of reflective or iridescent layers implies the use of light interference pigments.

## 5.2 Object of the invention

The object of the invention is to enable the authenticity of the document to be checked in a simple

manner. The suggestion of the appellant that the object of the invention is to increase colour contrast cannot be accepted, since this statement of the object includes a part of the solution.

### 5.3 Solution

The object of the invention is achieved by the combination of features (i) to (iii) as set out under point 5.1 above. The presence of a transparent support, or a support with a visible light-blocking capacity less than 50%, enables the light interference pigment to be viewed in transmission and in reflection.

It is not correct to assume that the person skilled in the art would attempt as a matter of routine to increase the transparency of the substrate of document D2, since there is no suggestion in this document that light transmitted through the light interference pigment is in any way of interest.

As acknowledged in the patent in suit at page 2, lines 28 to 47, it is a well known phenomenon that light interference pigments generate a transmission colour which is different from the reflection colour.

Document D11 suggests utilizing transmitted light as a security element in a security document (page 927, Figure 1c). In order to enable this to be done, a window is provided in the support and a thin transparent plastic film on which a optical multilayer coating is provided is applied over the window. The authenticity of the document can thus be readily checked by the naked eye. Document D11 accordingly provides an indication that an additional authenticity

check can be obtained by allowing an optical coating to be viewed not only in reflection, but also in transmission. However, the result of applying this teaching to the security document of document D2 is a security document in which a window is provided in the support and a thin transparent plastic film either incorporating a light interference pigment or on which a coating comprising a light interference pigment is provided is applied over the window. The combination of documents D2 and D11 thus does not lead the person skilled in the art to consider the use of a "transparent clear resin film support or such support containing small amounts of pigments or voids opacifying to some degree the support".

It was argued on behalf of the appellant that the thin transparent plastic film of document D11 should be regarded as the support, since the thin transparent plastic film acts as a support for the optical multilayer coating. This cannot be accepted, since the term is used throughout the patent in suit to refer to the element upon which the security document is built up (see, for example, page 3, lines 18 to 44 and the drawings). The reference to a support in claim 1 of the patent in suit must therefore be construed in this latter sense.

Document D5 suggests the use of a highly reflective or iridescent reflective layer which is provided in order to render counterfeiting by photocopying more difficult. There is a reference to the use of a transparent substrate at column 2, line 56 to column 3, line 1, where it is proposed to use such a substrate with a transparent or translucent reflective foil or a metallised coating. The above object of enabling the

authenticity of the document to be checked is not, however, addressed and there is no suggestion in this document of providing a security document in which it is possible to view a light interference pigment in transmission as well as in reflection. Document D5 thus does not provide an incentive to substitute a transparent support for the paper support of D2.

Thus, neither the teaching of document D11, nor that of document D5, suggests modifying the security document of document D2 in such a way as to arrive at the subject-matter of claim 1 of the patent in suit. The remaining cited prior art similarly does not suggest modifying the security document of document D2 by utilising a transparent or partially transparent support which enables the light interference pigment to be viewed in transmission.

In the alternative approach in which document D5 is considered to represent the closest prior art, the subject-matter of claim 1 is distinguished over the disclosure of this document in that at least one light interference pigment is distributed uniformly or patternwise in or on at least one layer of the document, and that the document, by the presence of said light interference pigment, has at least in certain areas a different color when viewed with light transmitted by the document in comparison with light reflected by the document.

There is, however, nothing in the cited prior art which would suggest to the person skilled in the art the utilisation in a security document of a light interference pigment in a manner such as to enable it to be viewed both in transmission as well as in

reflection.

The subject-matter of claim 1 thus involves an inventive step. Claims 2 to 29 are directly or indirectly appendant to claim 1 and relate to preferred features of the security document. These claims thus similarly involve an inventive step.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:
  - (a) claims 1 and 29, submitted during oral proceedings, and claims 2 to 28 as granted; and
  - (b) description, pages 2 to 16, submitted during oral proceedings; and
  - (c) drawings, Figures 1 to 4, as granted.

The Registrar:

The Chairman:

M. Dainese

W. Moser