Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 12 November 2015

Case Number: T 0559/10 - 3.2.05

Application Number: 96914754.5

Publication Number: 0914261

IPC: B42D15/10

Language of the proceedings: EN

Title of invention:
Paired Optically Variable Device with Optically Variable Pigments

Patent Proprietor:
Flex Products, Inc.

Opponent:
Giesecke & Devrient GmbH

Relevant legal provisions:
EPC 1973 Art. 56
RPBA Art. 13(1)

Keyword:
Statement not to attend oral proceedings amounts to a withdrawal of the request for oral proceedings
Admissibility of requests - (yes)
Inventive step - (no)

Decisions cited:
T 0003/90

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0559/10 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 12 November 2015

Appellant I: (Patent Proprietor)	Flex Products, Inc. 1402 Mariner Way Santa Rosa, CA 95407-7370 (US)
Representative:	Boult Wade Tennant Verulam Gardens 70 Gray's Inn Road London WC1X 8BT (GB)
Appellant II: (Opponent)	Giesecke & Devrient GmbH Prinzregentenstrasse 159 D-81677 München (DE)
Representative:	Zeuner Summerer Stütz Nußbaumstrasse 8 80336 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 15 January 2010 concerning maintenance of the European Patent No. 0914261 in amended form.**

Composition of the Board:

Chairman	M. Poock
Members:	S. Bridge
	J. Geschwind

Summary of Facts and Submissions

I. Both parties lodged appeals against the interlocutory decision of the opposition division proposing to maintain the European patent No. 0 914 261 in amended form.

The opposition was filed against the patent as a whole based on Article 100(a) EPC 1973 (lack of novelty, Article 54 EPC 1973, and lack of inventive step, Article 56 EPC 1973).

II. Appellant I (patent proprietor) requested that the decision under appeal be set aside and that the patent in suit be maintained on the basis of the main request comprising claims 1 to 25 or the auxiliary request comprising claims 1 to 23, both filed with the letter dated 20 December 2010.

III. Appellant II (opponent) requested that the decision under appeal be set aside and that the patent in suit be revoked.

IV. In an annex to the summons to oral proceedings dated 8 May 2015, the provisional opinion of the board was notified to the parties that the subject-matter of claim 1 of the main request appeared to lack an inventive step in view of document D1 as closest prior art in combination with either document D5 or D6.

V. With letter dated 14 October 2015, the representative of appellant I informed the board that no representative for the proprietor will be attending the oral proceedings scheduled for 12 November 2015.

VI. By a telefax dated 10 November 2015, the board notified the parties that the oral proceedings had been cancelled.

VII. Claim 1 according to the main request reads as follows:

"A paired optically variable article comprising a substrate (12) having a first surface (13), wherein a pair of first and second optical devices (17, 18) containing pigment are carried by said first surface to permit viewing under incident light at the same time by the human eye, at least one of the first and second optical devices being optically variable and comprising a metal-dielectric interference stack to provide an optically variable pigment which emanates colour with a colour shift with change in viewing angle due to an interference effect and which can be utilised in inks, paints and foils;
characterised in that said first and second optical devices are carried by the first surface of the substrate in spaced-apart positions on the first surface; and in that said first and second optical devices have the same matching colour at one angle of incidence between 0° and 90° and are without a colour match at all other angles of incidence."

VIII. Claim 1 according to the auxiliary request differs from claim 1 according to the main request in that the text "*at least one o[f]*" has been deleted as shown from the following feature of the preamble:

"~~*at least one o*~~*Of the first and second optical devices being optically variable …* ".

IX. The following documents are referred to in the present decision:

D1 EP-B-0 490 825;
D5 US-A-5,135,812;
D6 US-A-4,705,356.

X. In the written procedure, appellant I argued essentially as follows:

Claim 1 according to the main request requires that, at the colour match angle, colour emanates from the optically variable pigment by interference effects so that the colour of the one optical device matches the colour of the other optical device.

Document D1 discloses three stripes which, when viewed from a range of oblique viewing angles, exhibit differing colours which arise from interference effects. Document D1 also indicates that when the stripes are viewed perpendicularly, they appear yellowish. However, this yellowish appearance does not arise from interference effects: When viewed directly any colour observed is the colour of the substrate or the colour of the material in which the iridescent pigments are dispersed. Document D1 does not therefore disclose a paired optically variable article with first and second optical devices, at least one of which has an optically varying pigment and comprising a metal-dielectric interference stack to provide the same matching colour at one angle of incidence between 0° and 90° and being without a colour match at all other angles of incidence. Document D5 takes matters no further.

The latter effect solves the problem of how to provide a very distinctive visible feature for the optically variable device which is highly distinctive at one angle and one angle only. By providing an arrangement in which there is a colour match from two separate side-by-side

sources, one being the pigment which emanates colour by interference effects and the other being from the other optically variable device, the invention provides an arrangement which generates highly distinctive by readily visibly detected feature.

The subject-matter of claim 1 according to the main request involves an inventive step.

Claim 1 according to the auxiliary request has been further amended to distinguish it over the prior art.

XI. In the written procedure, appellant II argued essentially as follows:

Claim 1 does not require that the colours of the optically variable devices are formed solely by interference effects. According to paragraph [0056] of the patent in suit, greater colour change is achieved with metal-dielectric interference pigments, because these types of designs involve selective color absorption in addition to interference.

Claim 1 also does not require that the colour of the pigments corresponds at the colour matching viewing angle, but only that the colour of the optically variable devices has to coincide.

Document D1 discloses three stripes 2, 3, 4 with metal oxide coated mica flakes as iridescent pigments which are such that when the stripes are viewed in a vertical direction, they appear yellowish and when viewed from an oblique angle, they respectively appear red, blue or green (column 3, lines 19 to 37, figure 1). Document D1 does not disclose that at least one of these optically variable stripes comprises a metal-dielectric

interference stack but does suggest that pigments other than metal oxide coated mica flakes can be used (column 3, lines 35 to 44). Metal-dielectric interference pigments are a known alternative to purely dielectric pigments (document D5, column 2, lines 49 to 55 or document D6, column 8, lines 34 to 52). Thus, the subject-matter of claim 1 according to the main request does not involve an inventive step.

The spurious "*Of*" in claim 1 according to the auxiliary request, renders that claim unclear.

Claim 1 according to the auxiliary request differs from claim 1 according to the main request only in terms of a feature already disclosed in document D1, namely, that instead of just one, two optical devices with optically variable pigments are present. As already mentioned above, document D1 discloses three such optical devices, namely the stripes 2, 3 and 4.

Even a corrected claim 1 according to auxiliary request would therefore not be inventive.

Reasons for the Decision

1. *Procedural matters*

With the statement in its letter dated 14 October 2015 that no representative for the proprietor will be attending the oral proceedings before the board and the fact that the proprietor falls under the provision of Article 133(2) EPC, appellant I unequivocally expressed that it does not wish to present its arguments orally in the requested oral proceedings. Such a statement amounts to a withdrawal of the request for oral proceedings, see

in this respect T 3/90 (OJ EPO 92, 737) point 2 of the reasons. The provisional opinion of the board as notified in the annex to the summons to oral proceedings indicated, inter alia, a lack of inventive step of claim 1. However, appellant I did not provide any substantive response to this negative provision opinion. In consequence, in the present case, the board found it appropriate to cancel the oral proceedings.

2. *Admissibility*

The admissibility of appellant I's main and auxiliary requests filed with the letter dated 20 December 2010 was initially contested by appellant II. In its provisional opinion annexed to the summons to oral proceedings, the board indicated that it was inclined to admit these requests, because they were a legitimate reaction to a new document introduced by appellant II with his grounds of appeal.

In consequence and in the absence of further arguments on behalf of appellant II, the board exercises its discretion under Article 13(1) RPBA and admits these requests into the proceedings.

3. *Main request - Inventive step (Article 56 EPC 1973)*

3.1 Document D1 discloses a security paper which carries on its surface three stripes 2, 3, 4 of ink with iridescent pigments arranged side by side and which are a virtually invisible yellowish colour when viewed directly and present different colours over a range of oblique viewing angles (column 3, lines 19 to 34, figure 1). The iridescent pigments of the stripes involves TiO2 coated Mica flakes ("*Glimmerplätchen*") so that document D1 discloses optical devices which have an optically

variable pigment comprising a metal oxide-dielectric interference stack (column 3, lines 35 to 41). Therefore, document D1 is a reasonable starting point for investigating the question of inventive step of the subject-matter of claim 1.

3.2 Distinguishing features of claim 1

Contrary to the arguments of appellant I, the characterising part of claim 1 only refers to the "*optical devices*" as a whole and thus does not require the colour at the "*matching angle*" to be derived from an interference effect of the optically variable pigments. Therefore, it does not matter whether the virtually invisible yellowish colour of the stripes 2, 3, and 4 of document D1 "*is either a colour of the substrate to which the pigments are applied or is a colour inherent in the carrier in which the pigments are embodied*".

In consequence, the subject-matter of claim 1 only differs from the disclosure of document D1 in that a metal-dielectric interference stack is used instead of a metal oxide-dielectric interference stack for the optically variable pigment.

3.3 Technical effect and resulting objective problem

According to paragraph [0056] of the patent in suit, the advantage obtained by this feature is "*that the highest chroma and the greatest colour change with angle has been found with the metal dielectric type designs rather than with an all dielectric designs having the same number of layers*".

Thus the objective problem is to obtain better chroma and colour change with angle than with the known metal oxide-dielectric interference stack.

3.4 Known solutions

Document D5 discloses that "*strong dichroic effects*" can be obtained from a metal-dielectric interference stack to provide "*a very saturated green colour*" and "*a large amount of colour shift*" (column 9, lines 13 to 21 and column 9, line 64 to column 10, line 11).

Document D6 discloses that "*for all-dielectric designs the reflectance in a given high reflectance band increases with the number of periods, […] whereas for a metal-dielectric design the highest reflectance is achieved already with the simplest design, namely a three-layer coating*" (column 10, lines 18 to 23). This teaching corresponds to that of paragraph [0056] of the patent in suit. Furthermore, document D6 considers a metal-dielectric stack to be more practical than the all-dielectric stack (column 14, lines 22 to 45).

3.5 Inventive step

Thus, the skilled person is provided with an incentive to use a metal-dielectric interference stack instead of the metal oxide-dielectric interference stack of document D1 in order to obtain the advantages set out in either document D5 or D6.

In consequence, the subject-matter of claim 1 according to the main request does not involves an inventive step contrary to Article 100(a) EPC 1973 in combination with Article 56 EPC 1973.

4. *Auxiliary request - Inventive step (Article 56 EPC 1973)*

4.1 Claim 1

Claim 1 according to the auxiliary request differs from claim 1 according to the main request in that the text "*at least one o[f]*" has been deleted as shown from the following feature of the preamble:

"~~*at least one o*~~*Of the first and second optical devices being optically variable …* ".

The board considers that the spurious "*Of*" is a word processing error. The skilled person would understand the claim as if the "*Of*" had been deleted.

Therefore, in substance, the subject-matter of claim 1 according to the auxiliary request differs from claim 1 according to the main request in that both the first and the second optical devices are optically variable and comprise a metal-dielectric interference stack to provide an optically variable pigment.

As was pointed out by appellant II, this amended feature is already disclosed in document D1, where each of the three stripes 2, 3 and 4 includes an optically variable pigment with TiO2 coated Mica flakes.

Therefore, the reasoning set out in points 3.2 to 3.5 above carries over the the subject-matter of claim 1 according to the auxiliary request.

In consequence, the subject-matter of claim 1 according to the auxiliary request does not involves an inventive step contrary to Article 100(a) EPC 1973 in combination with Article 56 EPC 1973.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

3. The appeal of appellant I is dismissed.

The Registrar: The Chairman:

D. Meyfarth M. Poock

Decision electronically authenticated