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**Datasheet for the decision  
of 29 April 2019**

**Case Number:** T 0422/16 - 3.3.02

**Application Number:** 07021335.0

**Publication Number:** 1878773

**IPC:** C09D5/36, C09C1/00, H01F10/12

**Language of the proceedings:** EN

**Title of invention:**  
Alignable diffractive pigment flakes

**Patent Proprietor:**  
Viavi Solutions Inc.

**Opponent:**  
ECKART GmbH

**Headword:**

**Relevant legal provisions:**  
EPC Art. 76(1)

**Keyword:**  
Divisional application - added subject-matter

**Decisions cited:**

G 0002/10, T 1852/13, G 0009/92

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 0422/16 - 3.3.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.02**  
**of 29 April 2019**

**Appellant:** Viavi Solutions Inc.  
(Patent Proprietor) 430 North McCarthy Boulevard  
Milpitas, CA 95035 (US)

**Representative:** Murgitroyd & Company  
Scotland House  
165-169 Scotland Street  
Glasgow G5 8PL (GB)

**Respondent:** ECKART GmbH  
(Opponent) Güntersthal 4  
91235 Hartenstein (DE)

**Representative:** Walcher, Armin  
Louis, Pöhlau, Lohrentz  
Patentanwälte  
Postfach 30 55  
90014 Nürnberg (DE)

**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
15 December 2015 concerning the maintenance of  
European patent No. 1878773 in amended form.**

**Composition of the Board:**

**Chairman** M. O. Müller  
**Members:** A. Lenzen  
P. de Heij

## Summary of Facts and Submissions

- I. This decision concerns the appeal filed by the proprietor of European patent No. 1 878 773 against the interlocutory decision of the opposition division, according to which the patent in amended form met the requirements of the EPC.
  
- II. The patent was filed as European patent application No. 07 021 335.0, a divisional application of parent European patent application No. 03 795 180.3, the latter published as  
  
P1: international application No. WO 2004/024836.
  
- III. In its notice of opposition, the opponent requested the revocation of the patent in its entirety *inter alia* on the grounds that the claimed subject-matter extended beyond the content of the parent application as filed (Article 100(c) EPC).
  
- IV. The decision of the opposition division was based on the patent as granted (main request) and a first auxiliary request, filed during the oral proceedings held on 19 November 2015.  
  
According to this decision, the claimed subject-matter of the main request extended beyond the content of the parent application as filed. The first auxiliary request met the requirements of the EPC.
  
- V. This decision was appealed by the proprietor (hereinafter: appellant).
  
- VI. In a letter dated 14 August 2017 the opponent withdrew its opposition.

- VII. On 6 February 2019, the board issued a communication pursuant to Article 15(1) RPBA which contained its preliminary opinion on Article 76(1) EPC *inter alia*.
- VIII. Oral proceedings before the board were held on 29 April 2019.
- IX. The appellant requested
- that the decision under appeal be set aside and that the patent be maintained as granted (main request), or, alternatively, that the patent be maintained on the basis of the set of claims of the first auxiliary request, filed with the statement of grounds of appeal;
  - also alternatively, that the patent be maintained on the basis of the set of claims of the second auxiliary request, filed with the statement of grounds of appeal (which request implies that the decision under appeal be confirmed since the second auxiliary request is identical to the claims of the first auxiliary request, deemed allowable by the opposition division).
- X. Claim 1 of the main request, i.e. the patent as granted, reads as follows:
- "An image formed on a substrate, the image comprising: a first image having a second optically variable image printed thereover, the second optically variable image being formed of pigment flakes aligned in a selected first orientation wherein the pigment flakes are tilted at a desired angle with respect to the substrate and are not aligned in the plane of the substrate."*

Claim 1 of the first auxiliary request further states that the "*pigment flakes [are] **disposed in a carrier and magnetically** aligned in a selected first orientation*" (amendments vis-à-vis claim 1 of the main request shown in bold).

The set of claims of the second auxiliary request is identical to the set of claims of the first auxiliary request, deemed allowable by the opposition division.

XI. The appellant's arguments, insofar as they are relevant to the present decision, are addressed below.

## **Reasons for the Decision**

Main request (patent as granted)

1. Added subject-matter (Article 100(c) EPC)

1.1 Claim 1 relates to a combination of images wherein a second image comprising pigment flakes is **printed over** an arbitrary first image. In addition, the pigment flakes are required to be **tilted** with respect to the substrate on which the images have been formed.

As already set out in the board's communication pursuant to Article 15(1) RPBA (see point 1.2 therein) and as not contested by the appellant, only Figure 8C and paragraphs [0079] and [0080] of P1 provide a basis for this specific combination of features emphasised above, i.e. "printed over" and "tilted".

1.2 The key passage of the description of P1, from paragraph [0079] to paragraph [0080], reads as follows:

"[0079] Fig. 8C is a simplified flow diagram of a method of printing an optically variable image 820 according to another embodiment of the present invention. A first plurality of pixels having diffractive pigment flakes aligned in a first selected direction are disposed on a medium (step 822). A second plurality of pixels having diffractive pigment flakes aligned in a second direction are disposed on the medium (step 824). Additional pixels with diffractive flakes aligned in additional directions may be included. The alignment can be in the plane of the foil, or tilted at a desired angle. The order of the steps is not limiting, and some processes may allow the different sets of pixels to be concurrently applied to the medium. Other pixels may be printed with non-oriented diffractive pigment flakes, or non-diffractive pigment, or left blank. Similarly, the optically variable image or a portion of the image might be printed over another image, or another image might overly the optically variable image or a portion of the image.

[0080] The flakes can also be aligned at a desired tilt, as well as at a desired orientation of the diffraction grating by applying a magnetic field that is not in-plane with the medium that the flakes are applied to. [...]"

Figure 8C, as referred to in paragraph [0079], is as follows:

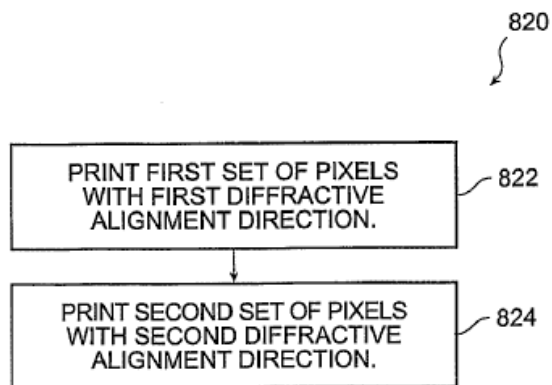


FIG. 8C

Thus, paragraphs [0079] and [0080] provide further details about one embodiment ("another embodiment") of the parent application as filed, namely a method of printing an optically variable image (820) in two steps (822 and 824) as shown in Figure 8C. For simplicity, this embodiment will simply be referred to as the embodiment of Figure 8C in the following (i.e. without additionally reciting paragraphs [0079] and [0080] each time).

1.3 The passages of P1 reproduced above impose further restrictions on the method and the image obtained thereby, namely at least

- (a) that **two different groups of pixels** ("*first and second plurality*" according to paragraph [0079]; "*first and second set*" according to Figure 8C) are disposed on the substrate, **said two groups differing from each other with respect to the alignment of the pigment flakes**, and
- (b) that the optical variability of the final image is based on the use of **diffractive** pigment flakes.

These two restrictions are not mentioned in claim 1.



1.4 The appellant argued that the embodiment of Figure 8C should not be considered in isolation. The disclosure of P1 was significantly broader allowing this embodiment to be generalised:

- (i) The appellant referred to paragraph [0004] of P1 and argued that the invention of claim 1 was based on a "Venetian blind effect": given that the second image was composed of pigment flakes all having the same tilt, the underlying first image was only visible from a specific viewing angle. Now, if two different groups of pixels with different tilts were arranged above one another, the underlying first image would never be visible, i.e. irrespective of the viewing angle. Taking this into account, the skilled person would understand that a second group of pixels in the embodiment of Figure 8C makes no technical sense when a first group of pixels has already been applied to an underlying first image. The second group of pixels was therefore not essential and could be omitted from claim 1 (see restriction (a) above).
  
- (ii) The appellant also held that the embodiment of Figure 8C directly followed the embodiment described in paragraph [0078] and Figure 8B of P1. As the latter embodiment did not mention and thus did not require diffractive pigment flakes, it was clear to the skilled person that the diffractive nature of the pigment flakes in the embodiment of Figure 8C was not

essential. It was therefore not necessary to specify the pigment flakes of claim 1 as being diffractive (see restriction (b) above).

- (iii) Furthermore, the appellant referred to paragraphs [0001], [0006] and [0008] of P1 and explained the object of P1 to be the alignment of pigment flakes in general, i.e. both diffractive and non-diffractive pigment flakes. In conjunction with sections I to VII of the description of P1 (e.g. paragraphs [0021] to [0024], [0030], [0038] and [0069]), the skilled person would see that the diffractive nature of the pigment flakes in the embodiment of Figure 8C is not essential. It was therefore not necessary to specify that the pigment flakes of claim 1 are diffractive (see restriction (b) above).

In summary, by invoking different parts of P1 (evidently not related to the embodiment of Figure 8C), the appellant argued that the skilled person would recognise the restrictions (a) and (b) as not being essential to the embodiment of Figure 8C and that they could therefore be omitted from claim 1.

The board does not find these arguments convincing. The question of whether a certain feature is essential or not should be considered in relation to the clarity of the claims (Article 84 and Rule 43(3) EPC) but not with respect to amendments thereto (for this latter aspect see T 1852/13). What matters in respect of added matter is whether the amendments are made within the limits of what a skilled person would derive directly and

unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the (parent) application documents as filed (the so-called "gold standard", G 2/10).

In the present case, the embodiment of Figure 8C is independent from the other embodiments disclosed in P1. This can be derived for example from the way the application was drafted:

*"[0077] Fig. 8A is a simplified flow diagram of a method of forming an image on a medium 800 **according to an embodiment of the present invention.** [...]*

*[0078] Fig. 8B is a simplified flow diagram of a method of aligning a pigment flake 810 **according to another embodiment of the present invention.** [...]*

*[0079] Fig. 8C is a simplified flow diagram of a method of printing an optically variable image 820 **according to another embodiment of the present invention.**" (emphases added)*

In other words: the embodiment of Figure 8C is a specific one. As evident from the passages of P1 reproduced above, there is no clear indication in the embodiment of Figure 8C itself that the two restrictions (a) and (b) are non-essential. Thus, the skilled person has to conclude that they are inextricably linked to the other features of this embodiment. These restrictions can thus not simply be omitted from claim 1 without making an unallowable intermediate generalisation (see Case Law of the Boards of Appeal of the European Patent Office, 8th edition 2016, II.E.1.7). While it may be true that other parts of P1 do not address these restrictions *expressis verbis*, this must not be understood as implying that

they are not essential in the context of the specific embodiment of Figure 8C. Taking the alleged non-essential aspect from these other parts and including it in the specific embodiment of Figure 8C would imply that the parent application as filed is a kind of reservoir from which features pertaining to separate embodiments or parts can be combined *ad libitum*. This is not the intention of Article 76(1) EPC (see Case Law of the Boards of Appeal of the European Patent Office, 8th edition 2016, II.E.1.4.1).

- 1.5 Regarding restriction (b) the appellant also argued that the two types of pigments described in paragraphs [0002] and [0003] of P1 were equivalent. Thus, P1 disclosed only one type of pigment, and it was not necessary to restrict the pigment flakes of claim 1 to one of those only seemingly different alternatives.

This argument is unconvincing: P1 itself starts by establishing a clear dividing line between the two types of pigments described in paragraphs [0002] and [0003]:

*"[0002] Optically variable pigments ("OVP's"<sup>TM</sup>) are used in a wide variety of applications. [...] **One type of OVP** uses a number of thin-film layers on a substrate that form an optical interference structure. [...]*  
*[0003] **Another type of pigment** uses a pattern, such as a series of grooves, to create a diffractive interference structure."* (emphases added)

For this reason alone, the skilled person would not assume both types of pigments to be equivalent. In addition, both types of pigments are clearly structurally different from each other: whereas the

pigment of paragraph [0002] is based on a number of thin-film layers on a substrate, the pigment of paragraph [0003] is based on a pattern, such as a series of grooves. Thus, since the prerequisite (namely the equivalence of both types of pigments) is not met, the argument as a whole is clearly without merit.

- 1.6 Furthermore, the appellant argued that the two directions in which the pigments were aligned according to paragraph [0079] could also be the same. This made the reference to the second group of pixels in claim 1 redundant (see restriction (a) above).

The board does not agree: the use of the terms **first** and **second** direction in this paragraph leaves no doubt that these are two **different** directions, namely a first and a second one.

- 1.7 Lastly, the appellant argued that paragraph [0079] of P1 also referred to "*pixels [...] printed with non-diffractive pigment*". The "*non-diffractive pigment*" would be understood by the skilled person as comprising "*non-diffractive pigment flakes*", because the only sort of pigment disclosed in P1 was pigment flakes. Thus, the two restrictions (a) and (b) above did not have to be included in claim 1.

This is not a valid argument. The structure of paragraph [0079] is very clear: its first three sentences describe the essential parts of the embodiment of Figure 8C, namely the two different groups of pixels with a different alignment of the diffractive pigment flakes in each group. The sentences following thereafter, i.e. in particular the sentence which refers to "*pixels [...] printed with non-diffractive pigment*", merely describe optional

modifications of said embodiment in terms of possible additional pixels and/or additional images. Such additional pixels and/or images, however, do not make the two different groups of pixels with different alignment of the diffractive pigment flakes in each group superfluous - they are still essential features of the embodiment of Figure 8C.

- 1.8 As is clear from the above, the subject-matter of at least claim 1 extends beyond the content of the parent application as filed, contrary to Article 100(c) EPC. The main request is therefore not allowable.

#### First auxiliary request

2. Added subject-matter (Article 100(c) in connection with Article 76(1) EPC)

As is clear from point X above, the amendments in claim 1 of the first auxiliary request vis-à-vis claim 1 of the main request do not address the two restrictions (a) and (b) discussed above. The reasoning above relating to the main request thus also applies *mutatis mutandis* to the first auxiliary request, which is therefore not allowable.

#### Second auxiliary request

3. The claims of the second auxiliary request are identical to the claims of the first auxiliary request, deemed allowable by the opposition division.

Since the proprietor is the only appellant in the present case, the second auxiliary request is not open to an examination by the board pursuant to G 9/92.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



N. Maslin

M. O. Müller

Decision electronically authenticated