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**Datasheet for the decision
of 14 November 2007**

Case Number: T 0399/06 - 3.3.06

Application Number: 00925769.2

Publication Number: 1193547

IPC: G03C 1/20

Language of the proceedings: EN

Title of invention:

Colored spectrozonal silver-halide photographic material

Applicant:

Zakrytoe Aktsionernoe Obschestvo Ordena Trudovogo
Krasnogo Znameni Nauchno-Proizvodstvennoe
Obiedinenie "Fomos" (ZAO NPO "FOMOS")

Opponent:

-

Headword:

Lower alkyl/ZAKRYTOE

Relevant legal provisions:

-

Relevant legal provisions (EPC 1973):

EPC Art. 123(2)

Keyword:

"Replacement of "lower alkyl" with "CH₃" and "C₂H₅" (not allowable): no support in the application as originally filed"

Decisions cited:

-

Catchword:

-



Case Number: T 0399/06 - 3.3.06

DECISION
of the Technical Board of Appeal 3.3.06
of 14 November 2007

Appellant: Zakrytoe Aktsionernoe Obschestvo Ordena
Trudovogo
Krasnogo Znameni Nauchno-Proizvodstvennoe
Obiedinenie "Fomos" (ZAO NPO "FOMOS")
Leningradsky pr., 47
Moscow, 125167 (RU)

Representative: von Füner, Nicolai
v. Füner Ebbinghaus Finck Hano
Patentanwälte
Mariahilfplatz 2 & 3
D-81541 München (DE)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 24 October 2005
refusing European application No. 00925769.2
pursuant to Article 97(1) EPC.

Composition of the Board:

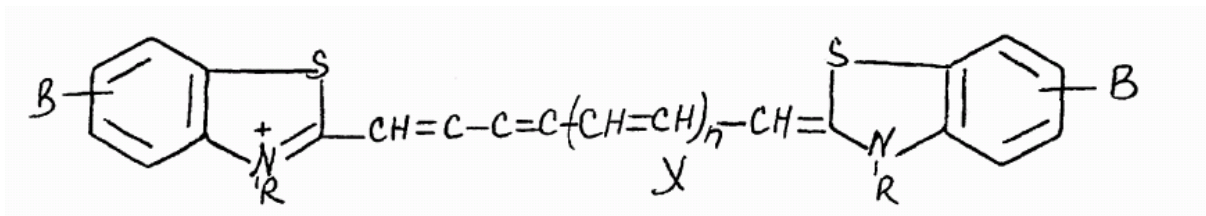
Chairman: P.-P. Bracke
Members: G. Raths
A. Pignatelli

Summary of Facts and Submissions

I. This appeal is from the decision of the Examining Division to refuse the European patent application No. 00 925 769.2 relating to a colored spectrozonal silver-halide photographic material.

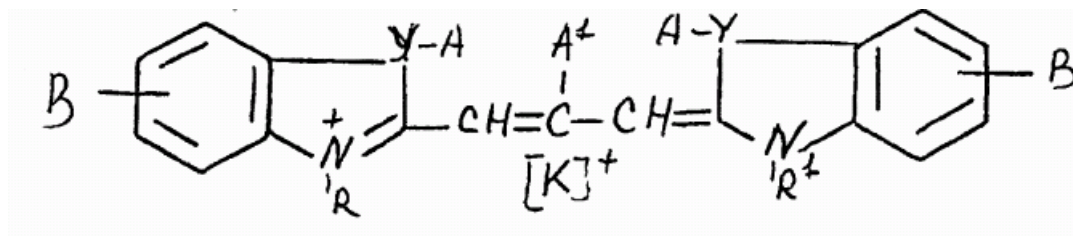
II. Claim 1 of the application as filed read:

"1. False colour silver halide photographic material consisting of a polymeric support on which on the one side antihalo backing layer is coated, on the other side at least two light-sensitive layers prepared from the silver halide photographic emulsion, containing colour forming couplers and infra-red, orthochromatic and/or panchromatic sensitizing dyes, auxiliary and protective gelatin layers are coated distinctive by that all light-sensitive layers are prepared from silver bromide-iodide emulsion with octahedral or flattened microcrystals with an average grain size 0,5-1,5 μm or their mixture and one of the light-sensitive layers contains as an infrared sensitizing dye one or more one compounds of the formula (1)



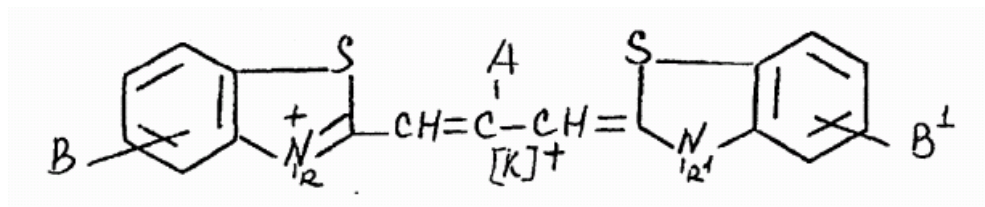
where A = H; $A^1 = \text{OCH}_2\text{CH}_2\text{CH}_2\text{SO}_3^-$; R = lower alkyl; A and A^1 together = $\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2^-$; $A^2 = \text{H}$; lower alkyl; B = H, 5,5'-diOCH₃, 6,6'-diSCH₃; R = lower alkyl, $(\text{CH}_2)_3\text{SO}_3^-$; n = 0, 1; X = $\text{CH}_3\text{C}_6\text{H}_4\text{SO}_3^-$, J^- , CH_3SO_3^- , alkaline metal or is absent;

the second light-sensitive layer contains as an orthochromatic sensitizing dye more than one compounds of the formula (II):



where Y = O, N; A = lower alkyl or is absent; A¹ = H, lower alkyl, B = 5,5'-COOC₂H₅, 5,5'-C₆H₅; R, R¹ = lower alkyl, (CH₂)₃SO₃⁻; [K]⁺ = NHC₅H₅ or is absent,

and/or the third light-sensitive layer contains as panchromatic sensitizing dye one or more compounds of the formula (III):



where A = lower alkyl; B = 4,5-benzo, 4,5-tieno; B¹ = 5-OCH₃, 5-C₆H₅, 4'5'-benzo, 5-Cl, 5-CH₃; R, R¹ = lower alkyl, (CH₂)₃SO₃⁻; [K]⁺ = HN⁺(C₂H₅)₃, HN⁺(C₄H₉)₃, C₅H₅-N⁺H, the alkaline metal, 3,3'-diethylthiazolinocarbocyanine, or is absent, and between light-sensitive layers auxiliary gelatin layers containing hardener are coated."

III. With letter of 22 August 2005 the applicant filed a first set of claims as a main request and a second set of claims as an auxiliary request.

IV. In its decision the Examining Division found, *inter alia*,

- that the then pending main request and auxiliary request did not fulfil the requirements of Article 123(2) EPC because the term "lower alkyl" had been replaced with specific embodiments described in the examples of the application in suit.

Also, claim 1 of the auxiliary request would allow for arbitrary combinations not explicitly disclosed by the examples of the application in suit.

V. The applicant (hereinafter appellant) filed an appeal against this decision and submitted a new set of three claims annexed to the letter dated 24 February 2006. It argued that the dyes used in the examples would serve as a basis of eight combinations of light sensitive dyes.

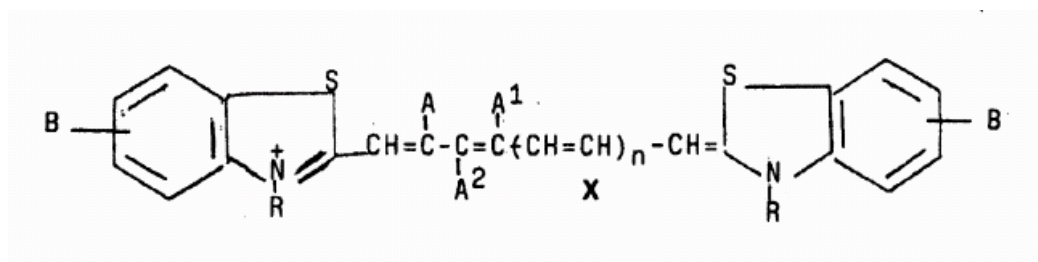
The claimed subject-matter would be novel and also involve an inventive step.

VI. The Board of appeal in its communication dated 30 January 2007 objected, *inter alia*, that "lower alkyl" could not be replaced with "methyl" or "ethyl" since the specific terms "methyl" and "ethyl" used in the examples could not serve as a basis for replacing the general term "lower alkyl" in a general formula. A generalisation of a specific disclosure would not be allowable and contravene Article 123(2) EPC.

VII. In its response dated 23 May 2007, the appellant filed a new set of 4 claims as a main request and a new set of 4 claims as an auxiliary request:

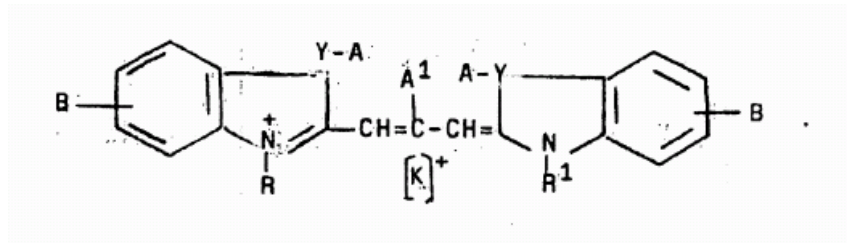
Claim 1 of the main request read:

"1. False colour silver halide photographic material consisting of a polymeric support on which on the one side an antihalo backing layer is coated, on the other side at least two light-sensitive layers prepared from silver halide photographic emulsions, containing colour forming couplers and infrared, orthochromatic and/or panchromatic sensitizing dyes, auxiliary and protective gelatin layers are coated, characterized in that all light-sensitive layers are prepared from a silver bromide-iodide photographic emulsion with octahedral microcrystals or a silver bromide-iodide photographic emulsion with flattened microcrystals, wherein the microcrystals have an average grain size of 0.5-1.5 μm , or a mixture thereof, and one of the light-sensitive layers contains as an infrared sensitizing dye a compound of the formula (I)



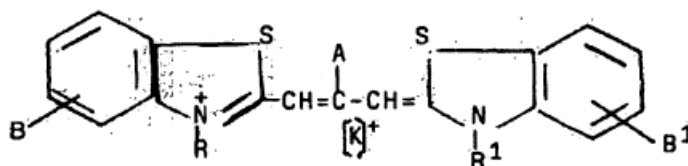
where A and A¹ together = CH₂C(CH₃)₂CH₂; A² = CH₃; B = 5,5'-di-OCH₃, 6,6'-diSCH₃; R = C₂H₅; n = 0; X = CH₃C₆H₄SO₃⁻, and optionally a compound of the formula (I) where A = H, A¹ = OCH₂CH₂CH₂CH₂SO₃⁻; A² = H; B = H; R = C₂H₅; n = 1; X = absent; and

the second light-sensitive layer contains as an orthochromatic sensitizing dye a compound of the formula (II):



where $Y = N$; $A = C_2H_5$; $A^1 = H$; $B = 5,5'-COOC_2H_5$; $R = (CH_2)_3SO_3^-$, $R^1 = C_2H_5$; $[K]^+ = \text{absent}$; and a compound of the formula (II) where $Y = O$; $A = \text{absent}$; $A^1 = C_2H_5$; $B = 5,5'-C_6H_5$; $R = R^1 = (CH_2)_3SO_3^-$, $[K]^+ = ^+NHC_5H_5$; and

the third light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III)



where $A = C_2H_5$; $B = 4,5\text{-benzo}$; $B^1 = 5-OCH_3$; $R = (CH_2)_3SO_3^-$; $R^1 = C_2H_5$; $[K]^+ = \text{absent}$;

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A^1 together = $CH_2C(CH_3)_2CH_2$; $A^2 = CH_3$; $B = 5,5'\text{-di-OCH}_3$, $6,6'\text{-diSCH}_3$; $R = C_2H_5$; $n = 0$; $X = CH_3C_6H_4SO_3^-$;

and the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula

(III) where $A = C_2H_5$; $B = 4,5\text{-benzo}$; $B^1 = 5\text{-OCH}_3$; $R = (CH_2)_3SO_3^-$; $R^1 = C_2H_5$; $[K]^+ = \text{absent}$;

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and $A^2 = H$; $A^1 = OCH_2CH_2CH_2SO_3^-$; $B = H$; $R = C_2H_5$; $X = \text{absent}$; $n = 1$; and a compound of the formula (I) where A and $A^1 = CH_2C(CH_3)_2CH_2$; $A^2 = CH_3$; $B = 5,5'\text{-di-OCH}_3, 6,6'\text{-di-SCH}_3$; $R = C_2H_5$; $n = 0$; $X = CH_3C_6H_4SO_3^-$;

and the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where $A = C_2H_5$; $B = 4,5\text{-benzo}$; $B^1 = 4',5'\text{-benzo}$; $R = R^1 = (CH_2)_3SO_3^-$; $[K]^+ = ^+NHC_5H_5$;

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A^1 together $= CH_2C(CH_3)_2CH_2$; $A^2 = CH_3$; $B = 5,5'\text{-di-OCH}_3, 6,6'\text{-diSCH}_3$; $R = C_2H_5$; $n = 0$; $X = CH_3C_6H_4SO_3^-$; and a compound of formula (I) where A and $A^2 = H$; $A^1 = OCH_2CH_2CH_2SO_3^-$; $B = H$; $R = C_2H_5$; $n = 1$; $X = \text{absent}$; and

the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where $A = C_2H_5$; $B = 4,5\text{-thieno}$; $B^1 = 6\text{-OCH}_3, 5\text{-C}_6\text{H}_5$; $R = R^1 = (CH_2)_3SO_3^-$; $K^+ = HN^+(C_2H_5)_3$;

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A¹ together = CH₂C(CH₃)₂CH₂; A² = CH₃; B = 5,5'-di-OCH₃, 6,6'-diSCH₃; R = C₂H₅; X = CH₃C₆H₄SO₃⁻; n = 0; and

the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where A = C₂H₅; B = 4,5-benzo; B¹ = 5'-OCH₃; R = R¹ = (CH₂)₃SO₃⁻; [K]⁺ = HN⁺(C₄H₉)₃;

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A² = H ; A¹ = O-i-CH₃H₇; R = C₂H₅ ; n = 1; X = I; and the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where A = C₂H₅; B = 4,5-benzo; B¹ = 5-OCH₃; R = R¹ = (CH₂)₃SO₃⁻; [K]⁺ = 3,3'-diethylthiazolinocarbocyanine;

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A² = CH₃; A and A¹ together = CH₂C(CH₃)₂CH₂; R = C₂H₅; B = 5,5'-di-OCH₃, 6,6'-diSCH₃; X = CH₃SO₃⁻ and the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where A = C₂H₅; B = 4,5-benzo; B¹ = 5-Cl; R = R¹ = (CH₂)₃SO₃⁻; [K]⁺ = HN⁺(C₂H₅)₃;

or

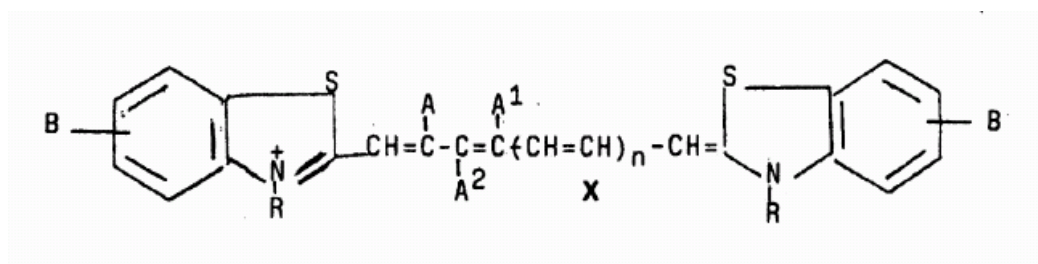
one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A¹ = CH₂C(CH₃)₂CH₂; A² = H; R = (CH₂)₃SO₃⁻; X = Na and the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where A = C₂H₅; B = 4,5-benzo; B¹ = 5-CH₃; R = (CH₂)₃SO₃⁻; R¹ = CH₂CH(OH)CH₂SO₃⁻; [K]⁺ = HN⁺(C₂H₅)₃;

and between the light sensitive layers auxiliary gelatine layers containing hardener are coated."

VIII. During the oral proceedings which took place on 14 November 2007, the appellant replaced the auxiliary request filed with the letter dated 23 May 2007 with a new auxiliary request.

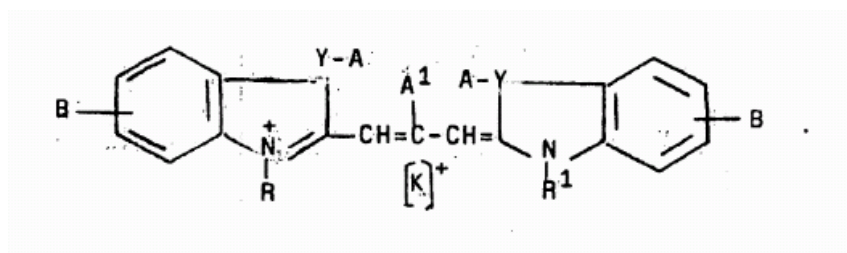
Claim 1 of the auxiliary request reads as follows:

"1. False colour silver halide photographic material consisting of a polymeric support on which on the one side an antihalo backing layer is coated, on the other side at least two light-sensitive layers prepared from silver halide photographic emulsions, containing colour forming couplers and infrared, orthochromatic and/or panchromatic sensitizing dyes, auxiliary and protective gelatin layers are coated, characterized in that one of the light-sensitive layers contains as an infrared sensitizing dye a compound of the formula (I)



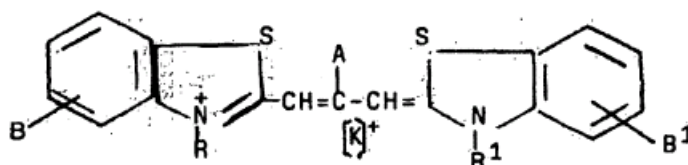
where A and A¹ together = CH₂C(CH₃)₂CH₂; A² = CH₃; B = 5,5'-di-OCH₃, 6,6'-diSCH₃; R = C₂H₅; n = 0; X = CH₃C₆H₄SO₃⁻, and a compound of the formula (I) where A = H, A¹ = OCH₂CH₂CH₂CH₂SO₃⁻; A² = H; B = H; R = C₂H₅; n = 1; X = absent; and

the second light-sensitive layer contains as an orthochromatic sensitizing dye a compound of the formula (II):



where Y = N; A = C₂H₅; A¹ = H; B = 5,5'-COOC₂H₅; R = (CH₂)₃SO₃⁻, R¹ = C₂H₅; [K]⁺ = absent; and a compound of the formula (II) where Y = O; A = absent; A¹ = C₂H₅; B = 5,5'-C₆H₅; R = R¹ = (CH₂)₃SO₃⁻, [K]⁺ = ⁺NHC₅H₅; and

the third light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III)



where A = C₂H₅; B = 4,5-benzo; B¹ = 5-OCH₃; R = (CH₂)₃SO₃⁻; R¹ = C₂H₅; [K]⁺ = absent;

and all light-sensitive silver halide emulsions are prepared from mixture of a bromide-iodide emulsion with octahedral microcrystals with an average grain size of 0.7 μm and a silver bromide-iodide emulsion with

flattened microcrystals with an average grain size of 1.2 μm

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and $A^2 = \text{H}$; $A^1 = \text{OCH}_2\text{CH}_2\text{CH}_2\text{SO}_3^-$; $B = \text{H}$; $R = \text{C}_2\text{H}_5$; X = absent; $n = 1$; and a compound of the formula (I) where A and $A^1 = \text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2$; $A^2 = \text{CH}_3$; $B = 5,5'$ -di-OCH₃, 6,6'-di-SCH₃; $R = \text{C}_2\text{H}_5$; $n = 0$; $X = \text{CH}_3\text{C}_6\text{H}_4\text{SO}_3^-$;

and the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where $A = \text{C}_2\text{H}_5$; $B = 4,5$ -benzo; $B^1 = 4', 5'$ -benzo; $R = R^1 = (\text{CH}_2)_3\text{SO}_3^-$; $[\text{K}]^+ = ^+\text{NHC}_5\text{H}_5$;

all light-sensitive emulsion layers are prepared from silver bromide-iodide emulsion with flattened microcrystals with an average grain size

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A^1 together = $\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2$; $A^2 = \text{CH}_3$; $B = 5,5'$ -di-OCH₃, 6,6'-diSCH₃; $R = \text{C}_2\text{H}_5$; $n = 0$; $X = \text{CH}_3\text{C}_6\text{H}_4\text{SO}_3^-$, and a compound of formula (I) where A and $A^2 = \text{H}$; $A^1 = \text{OCH}_2\text{CH}_2\text{CH}_2\text{SO}_3^-$; $B = \text{H}$; $R = \text{C}_2\text{H}_5$; $n = 1$; X = absent; and

the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula

(III) where $A = C_2H_5$; $B = 4,5\text{-thieno}$; $B^1 = 6\text{-OCH}_3, 5\text{-C}_6\text{H}_5$;
 $R = R^1 = (CH_2)_3SO_3^-$; $K^+ = HN^+(C_2H_5)_3$;

all light sensitive layers are prepared from silver bromide-iodide photographic emulsion with an average size of flattened crystals $1.5 \mu\text{m}$

or

one of the light sensitive layers contains as an infrared sensitizing dye a compound of the formula (I) where A and A^1 together = $CH_2C(CH_3)_2CH_2$; $A^2 = CH_3$; $B = 5,5'\text{-di-OCH}_3, 6,6'\text{-diSCH}_3$; $R = C_2H_5$; $X = CH_3C_6H_4SO_3^-$; $n = 0$; and

the second light-sensitive layer contains as panchromatic sensitizing dye a compound of the formula (III) where $A = C_2H_5$; $B = 4,5\text{-benzo}$; $B^1 = 5'\text{-OCH}_3$; $R = R^1 = (CH_2)_3SO_3^-$; $[K]^+ = ^+HN(C_4H_9)_3$;

all light sensitive silver halide emulsion layers are prepared from a mixture of silver bromide-iodide photographic emulsion with octahedral microcrystals with an average grain size $0.7 \mu\text{m}$ and a silver bromide-iodide photographic emulsion with flattened microcrystals with $d = 1.2 \mu\text{m}$ in the ratio 1:1 and between the light sensitive layers auxiliary gelatine layers containing hardener are coated."

IX. In the written procedure and during oral proceedings it argued, *inter alia*,

- that "lower alkyl" means methyl, ethyl, propyl and butyl. In support of its reasoning that it was

allowable to replace "lower alkyl" with "methyl" or "ethyl" the appellant relied on document

(D) Hydrocarbons acyclic hydrocarbons, IUPAC
Nomenclature of Organic Chemistry, 1979 Edition,
Pergamon Press, page 5.

It also argued that the residues of the examples may serve as a basis supporting the amendments.

- X. The appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of the claims according to the main request filed with the letter dated 23 May 2007 or, according to the auxiliary request filed at the oral proceedings before the Board.

Reasons for the Decision

Article 123 EPC

1. *Main request*

- 1.1 In the formula I of the application as filed the residues R and A² were defined as "lower alkyl". In formula I of claim 1 of the main request the residue R was defined as C₂H₅ and the residue A² as CH₃.

In the formula II of the application as filed the residues A, A¹ and R¹ were defined as "lower alkyl". In formula II of claim 1 of the main request the residue A was defined as C₂H₅, A¹ as C₂H₅ and R¹ as C₂H₅.

In the formula III of the application as filed the residues A and R¹ were defined as "lower alkyl". In formula III of claim 1 of the main request the residue A was defined as C₂H₅ and R¹ as C₂H₅.

1.2 The question is whether the replacement of "alkyl" with "C₂H₅" or "CH₃" is an amendment having a support in the application as filed.

1.3 The appellant argued as follows:

(i) There is a well recognized definition of "lower alkyls" in the field of chemistry so that the replacement as indicated above is allowable. The appellant pointed to the definition 1.1 under the heading "Rule A-1 Saturated Unbranched Chain Compounds and Univalent Radicals" of document (D) which reads as follows:

"The first four saturated unbranched acyclic hydrocarbons are called methane, ethane, propane and butane. Names of the higher members of this series consist of a numerical term, followed by "-ane" with elision of terminal "a" from the numerical term."

It concluded from the definition of the "higher members" that "methane, ethane, propane and butane" may be called "lower members", and therefrom, that "lower alkyl" would implicitly mean for instance "methyl" (CH₃) and "ethyl" (C₂H₅).

(ii) Since in the application as filed the residues of formulae (I), (II) and (III) are defined in the

examples, there would be a basis for replacing "lower alkyl" in the terms

"R = lower alkyl", "A² = lower alkyl", "A¹ = lower alkyl", "R¹ = lower alkyl",
"A = lower alkyl",

with "CH₃" and/or "C₂H₅" in the general formulae (I), (II) and (III) of claim 1.

1.4 The Board does not share the appellant's views.

It was never contested that in the general description of the application as filed, the term "lower alkyl" was not specified. For this reason alone, independent thereof, whether the general term "lower alkyl" has a well-defined meaning, no support can be found in the general description for particular meanings of lower alkyl, such as methyl or ethyl.

The Board does not contest that the compounds of formula (I), (II) and (III) in claim 1 are restricted to compounds specifically described in the examples of the application as filed.

However, although it is true that false colour silver halide photographic materials containing in the light-sensitive layers compounds of formula (I), (II) and/or (III) are described in some of the examples of the application as originally filed, claim 1 is not restricted to such exemplified photographic materials. For example, contrary to the examples, claim 1 does not exclude that the photographic materials may contain additional layers not described in the examples.

Since claim 1 is thus an unacceptable generalisation of the examples of the application as filed, claim 1 cannot be considered to meet the requirements of Article 123(2) EPC.

2. *Auxiliary request*

2.1 The appellant argued that the subject-matter of claim 1 of the auxiliary request (see point VIII) finds its support in the examples 3, 10, 14 and 16 of the application as originally filed. The substituents in claim 1 would be those used in the formulae of the dyes according to said examples.

2.2 The Board notes that according to the application as originally filed false colour photographic material according to, *inter alia*, example 3 is prepared and processed similarly to example 2.

According to example 2 of the application as originally filed false colour photographic material is prepared by coating on two-side subcoated polyethylene terephthalate support of emulsion and auxiliary layers of the following structure:

- blue antihalo sublayer consisting from suspension of colloid silver, containing per kg 13.5 g of metal silver; 133 g of gelatin; 140 g of 2,5-ditret-octylhydrochinone; 150 ml of 4% solution of a mixture of diisobutylnaphtaline sulfonic acid and 30 ml of 4% water solution of disodium salt of diethyl ether of N- γ -dodecyloxypropyl(sulfosuccinoyl)aspartic acid as

surfactants; 60 ml of the 3% solution of sodium salt of 2,4-dichloro-6-oxytriazine-1,3,5 as a hardener.

2.3 Claim 1 of the auxiliary request however reads:

"False colour silver halide photographic material consisting of a polymeric support on which on one side an antihalo backing layer is coated..."

A comparison between the disclosure of example 3 of the application as filed and claim 1 (see point VIII) reveals that

- the specific feature "terephthalate" was replaced by the general feature "polymeric support",
- the specific "blue antihalo sublayer" as defined above under point 2.2 was replaced by the general feature "antihalo backing layer" and
- the specific hardener, namely, "sodium salt of 2,4-dichloro-6-oxytriazine-1,3,5" was replaced by the general feature "hardener".

These amendments constitute inadmissible extensions under Article 123(2) EPC for the same reasons as given for the main request (see point 1.4, in particular, the last paragraph).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Rauh

P.-P. Bracke