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**Datasheet for the decision  
of 25 October 2007**

**Case Number:** T 1347/04 - 3.3.01

**Application Number:** 01113002.8

**Publication Number:** 1164174

**IPC:** C09D 11/00

**Language of the proceedings:** EN

**Title of invention:**

Ink set, ink jet recording apparatus, ink jet recording method,  
recording unit, and ink cartridge

**Applicant:**

CANON KABUSHIKI KAISHA

**Opponent:**

-

**Headword:**

Ink set/CANON

**Relevant legal provisions:**

EPC Art. 84, 111(1)

**Keyword:**

"Clarity (yes)"  
"Remittal for further prosecution"

**Decisions cited:**

-

**Catchword:**

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Case Number: T 1347/04 - 3.3.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.01  
of 25 October 2007

**Appellant:**

CANON KABUSHIKI KAISHA  
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Ohta-ku  
Tokyo (JP)

**Representative:**

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Weser & Kollegen  
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**Decision under appeal:**

Decision of the Examining Division of the  
European Patent Office posted 23 June 2004  
refusing European application No. 01113002.8  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** P. Ranguis  
**Members:** J. Jonk  
D. S. Rogers

## Summary of Facts and Submissions

I. This appeal lies from the decision of the Examining Division refusing European patent application 01 113 002.8, published under number EP 1 164 174, and relating to "Ink set, ink jet recording apparatus, ink jet recording method, recording unit, and ink cartridge".

II. The decision of the Examining Division was based on a set of claims filed on 30 March 2004, Claim 1 reading as follows:

"An ink set comprising a first aqueous ink and a second aqueous ink having a same colour tone, wherein the first ink and the second ink contain at least one same coloring material, at least one of the first and second inks contains at least one further coloring material which is different from the coloring materials of the other ink, the second ink has a lower coloring material content than the coloring material content of the first ink, and a degree of fading of a second image produced with the second ink is the same as or lower than a degree of fading of a first image produced with the first ink."

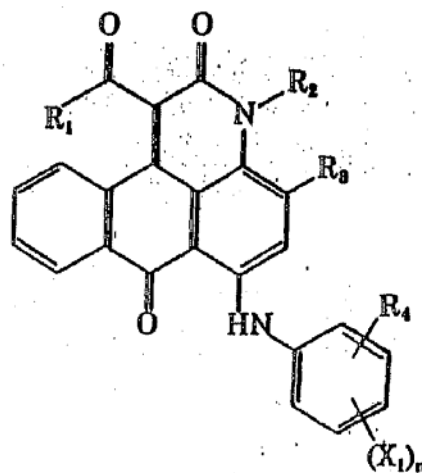
III. The Examining Division held that the subject-matter of said Claim 1 did not meet the requirements of Article 84 EPC having regard to the feature stating that the degree of fading of a second image produced with the second ink is the same or lower than the degree of fading of a first image produced with the first ink.

IV. Oral proceedings before the Board were held on 25 October 2007.

V. The Appellant finally defended the patentability of the subject-matter of the present application on the basis of a set of thirteen claims submitted during the oral proceedings before the Board, independent Claims 1 and 2 reading as follows:

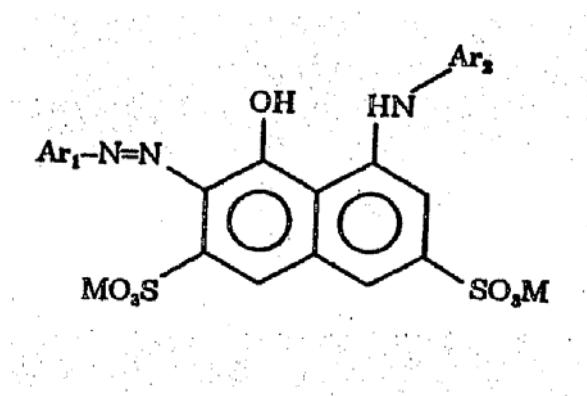
"1. An ink set comprising a first ink and a second ink having a same colour tone, wherein the second ink has a lower coloring material content than the coloring material content of the first ink, the second ink is an aqueous ink containing a dye represented by formula (I) as a sole coloring material, and the first ink is an aqueous ink containing a dye represented by formula (I) and at least one of a dye represented by formula (II) and a dye represented by formula (III), as coloring materials:

Formula (I)



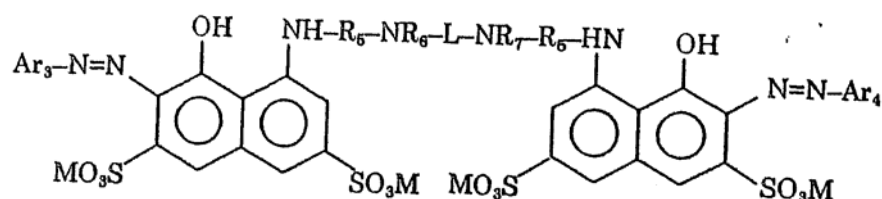
wherein  $R_1$  is a substituted or unsubstituted alkoxy group or a substituted or unsubstituted aryl group; each of  $R_2$  and  $R_4$  is independently a hydrogen atom or a substituted or unsubstituted alkyl group;  $R_3$  is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, and a halogen atom;  $X_1$  is a carboxyl group or a salt thereof, or a sulfonic acid group or a salt thereof; and  $n$  is 1 or 2;

Formula (II)



wherein  $Ar_1$  a substituted or unsubstituted phenyl group, or a substituted or unsubstituted naphthyl group;  $Ar_2$  is selected from the group consisting of an acetyl group, a benzoyl group, a 1, 3, 5-triazinyl group, a  $SO_2-C_6H_5$  group, and a  $SO_2-C_6H_4-CH_3$  group; and  $M$  is selected from the group consisting of a hydrogen atom, an alkali metal, an ammonium, and an organic ammonium,  $M$  being a counter ion of the sulfonic acid group;

Formula (III)

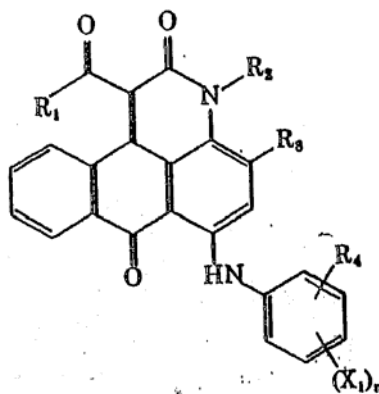


wherein each of  $\text{Ar}_3$  and  $\text{Ar}_4$  is independently a substituted or unsubstituted phenyl group, or a substituted or unsubstituted naphthyl group, at least one of  $\text{Ar}_3$  and  $\text{Ar}_4$  having a carboxyl group or a salt thereof, or a sulfonic acid group or a salt thereof;  $\text{M}$  is selected from the group consisting of a hydrogen atom, an alkali metal, an ammonium, and an organic ammonium,  $\text{M}$  being a counter ion of the sulfonic acid group;  $\text{R}_5$  is a 1, 3, 5-triazinediyl group; each of  $\text{R}_6$  and  $\text{R}_7$  is independently selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, and an atomic group necessary to complete a perhydroxyazine ring together with  $\text{N}$ ; and  $\text{L}$  is a bivalent organic connecting group.

2. An ink set comprising a first ink and a second ink having a same color tone, wherein the second ink has a lower coloring material content than the coloring material content of the first ink, the second ink is an aqueous ink containing a dye represented by formula (I) as a sole coloring material, and the first ink is an aqueous ink containing a dye represented by the

following formula (I) and at least one of C. I. Acid Red 52 and C. I. Acid Red 289:

Formula (I)



wherein R<sub>1</sub> is a substituted or unsubstituted alkoxy group or a substituted or unsubstituted aryl group; each of R<sub>2</sub> and R<sub>4</sub> is independently a hydrogen atom or a substituted or unsubstituted alkyl group; R<sub>3</sub> is selected from the group consisting of a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, a substituted or unsubstituted aryloxy group, and a halogen atom; X<sub>1</sub> is a carboxyl group or a salt thereof, or a sulfonic acid group or a salt thereof; and n is 1 or 2."

- VI. The Appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of Claims 1 to 13 of the main request submitted at the oral proceedings.
- VII. At the conclusion of the oral proceedings the Board's decision was pronounced.

## Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 Present Claims 1 and 2 correspond, apart from the obvious correction of Formula (I), to Claims 14 and 17, respectively, of the application as filed.

Present Claims 3 and 4 find their basis in Claims 15 and 16 of the application as filed.

The subject-matter of present Claims 5, 6 and 7 correspond to that of Claims 18, 19 and 20, respectively, of the application as filed.

The subject-matter of present Claim 8 relating to a recording method using the ink set according to present Claims 1 to 7 is supported by Claims 31 and 32 of the application as filed and by the support indicated above with respect to present Claims 1 to 7.

Present Claim 9 relating to a method according to present Claim 8 using a bubble jet printer is supported by the support indicated above with respect to present Claim 8 and by Claim 23 of the application as filed.

Present Claim 10 relating to an ink jet recording apparatus for using the ink set according to present Claims 1 to 7 is supported by the subject-matter of Claims 26 and 27 of the application as filed and by the



support indicated above with respect to present Claims 1 to 7.

Present Claim 11 relating to a recording unit comprising an ink container section containing inks constituting an ink set according to present Claims 1 to 7, and a head section for ejecting the inks is supported by Claim 36 of the application as filed and by the support indicated above with respect to present Claims 1 to 7.

Present Claim 12 is supported by Claim 37 of the application as filed.

The subject-matter of present Claim 13 is based on Claim 38 of the application as filed.

2.2 Therefore, the Board concludes that the subject-matter of the present claims does not extend beyond the application as filed, and consequently meets the requirement of Article 123(2) EPC.

3. *Clarity within the meaning of Article 84 EPC*

3.1 The present independent claims do not contain the functional feature as defined in Claim 1 forming the basis of the decision of the First Instance, so that the ground for the rejection of the application in suit has been removed. Moreover, after having considered the subject-matter of the present claims, the Board sees no reason for further clarity objections.

3.2 Therefore, the Board concludes that the present claims also meet the requirements of Article 84 EPC.

4. *Remittal (Article 111(1) EPC)*

4.1 Having so decided, the Board has not, however, taken a decision whether the application in suit meets the requirements of the EPC as a whole, since the essential feature of the appeal proceedings is to consider whether the decision which has been issued by the First Instance is correct. Therefore, and in view of the fact that the Examining Division did not consider the patentability of the application in suit on the basis of the present set of claims, the Board considers it appropriate to exercise the power conferred on it by Article 111(1) EPC to remit the case to the Examining Division for further prosecution.

**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 for further prosecution on the basis of Claims 1 to 13 of the main request submitted at the oral proceedings.

The Registrar:

The Chairman:

N. Maslin

P. Ranguis