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

# Datasheet for the decision of 5 February 2014

**Case Number:** T 2507/12 - 3.3.01

**Application Number:** 06718387.1

**Publication Number:** 1791702

**IPC:** B42D15/00

**Language of the proceedings:** EN

**Title of invention:**
SECURITY FEATURES, THEIR USE, AND PROCESSES FOR MAKING THEM

**Patent Proprietor:**
CABOT CORPORATION

**Opponent:**
Securency International Pty Ltd

**Headword:**

**Relevant legal provisions:**
EPC Art. 123(2)

**Keyword:**
Amendments -
extension beyond the application as originally filed (yes) -
feature not clearly and unambiguously disclosed

**Decisions cited:**
T 0860/00, T 1041/07

**Catchword:**

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 2507/12 - 3.3.01**

# D E C I S I O N
# of Technical Board of Appeal 3.3.01
# of 5 February 2014

| | |
|---|---|
| **Appellant:** (Patent Proprietor) | CABOT CORPORATION<br>Two Seaport Lane,<br>Suite 1300<br>Boston, Massachusetts 02210-2019 (US) |
| **Representative:** | Serravalle, Marco<br>Serravalle SAS<br>Via Matteotti, 21/23<br>26854 Cornegliano Laudense (LO) (IT) |
| **Respondent:** (Opponent) | Securency International Pty Ltd<br>Potter Street<br>Craigieburn, VIC 3064 (AU) |
| **Representative:** | Harrison, Scott David<br>Swindell & Pearson Limited<br>48 Friar Gate<br>Derby DE1 1GY (GB) |
| **Decision under appeal:** | **Decision of the Opposition Division of the European Patent Office posted on 18 October 2012 revoking European patent No. 1791702 pursuant to Article 101(3)(b) EPC.** |

**Composition of the Board:**

**Chairman:** A. Lindner
**Members:** G. Seufert
L. Bühler

## Summary of Facts and Submissions

I. The patent proprietor lodged an appeal against the decision of the opposition division revoking European patent No. 1 791 702.

II. The patent was granted on the basis of 50 claims. Independent claims 1 and 6 read as follows:

"1. Ink for ink-jet printing or digital printing comprising a vehicle and metallic particles having a weight average particle size of from 40 nm to 1 µm, preferably from 50 nm to 500 nm, wherein the loading of metallic nanoparticles in the ink is comprised between 2% by weight and 75% by weight, preferably from 2% to 40% by weight, and the viscosity of the ink is comprised between 10 and 40 cP."

"6. A process for forming a reflective security feature, the process comprising the steps of:

(a) providing an ink comprising a vehicle and metallic particles having a weight average particle size of from 20 nm to 1 µm, preferably from 50 nm to 500 nm, wherein the loading of metallic nanoparticles in the ink is comprised between 2% by weight and 75% by weight, preferably from 2% to 40% by weight; and
(b) ink jet printing or direct write printing or digitally printing the ink to form the reflective security feature."

Further independent claims are directed to a reflective security feature, a banknote, a brand authentication tag and a tax stamp comprising the reflective security feature, an article comprising the brand authentication

and an alcohol bottle or tobacco product container comprising the tax stamp.

III. The present decision refers to the following document:

(9) Kirk-Othmer, Encyclopedia of Chemical Technology, 4th edition, John Wiley & Sons, New York (US), 1997, vol. 22, pages 256 to 278

IV. Notice of opposition was filed by the respondent requesting revocation of the patent in suit in its entirety on the grounds of lack of novelty and inventive step, insufficiency of disclosure and added subject-matter (Article 100(a), (b) and (c) EPC).

V. The decision of the opposition division was based on the set of claims as granted (see point II above), auxiliary request I filed with letter of 29 August 2012 and auxiliary request II filed on 3 October 2012 at the oral proceedings before the division.

Auxiliary request I differs from the claims as granted in that claim 1 has been limited to an ink for ink-jet printing.

Auxiliary request II differs from the claims as granted in that claims 1 to 5 directed to an ink have been deleted.

The opposition division held that the ground of opposition pursuant to Article 100(c) EPC prejudiced the maintenance of the patent and that auxiliary requests I and II did not comply with Article 123(2) EPC, because there was no basis for an ink not being limited by the specific purpose of producing a security feature and because there was no

basis for the feature "**weight** average particle size" in the application as originally filed.

VI. The arguments of the appellant with respect to the decisive issues can be summarised as follows:

Claim 1 of the main request found its basis in paragraphs [0031], [0034], [0042], [0043], [0047] and [0044], lines 1 to 4. Concerning the feature "weight average particle size", it found support in the combined reading of paragraphs [0031] and [0032], taking into consideration common general knowledge as illustrated in document (9).

VII. The arguments of the respondent with respect to the decisive issues can be summarised as follows:

The feature "weight average particle size" had no basis in the application as filed. There was no explicit disclosure of this feature. There was also no disclosure which would have led the skilled person inevitably to the weight average particle size. Paragraphs [0032] and [0031] were not linked. The former, referring only to a particular embodiment of the invention, could therefore not support the feature "weight average particle size" in general for the ink.

VIII. The appellant requested that the decision under appeal be set aside and the case be remitted to the department of first instance for further prosecution on the basis of the main request or, alternatively, on the basis of auxiliary request I filed on 29 August 2012, or of auxiliary request II submitted on 3 October 2012.

IX. The respondent requested that the appeal be dismissed, alternatively that the case be remitted to the department of first instance for further prosecution.

## Reasons for the Decision

2. The appeal is admissible.

*Main request*

3. Amendments (Article 100(c) EPC)

3.1 The subject-matter of the European patent may not extend beyond the content of the application as filed. According to the established jurisprudence of the boards of appeal, the content of an application encompasses what is directly and unambiguously disclosed therein, be it explicitly or implicitly. In this context, implicit means no more than a clear and unambiguous consequence of what is explicitly disclosed (T 1041/07, first four paragraphs of point 3.5 of the Reasons; T 860/00, point 1.1 of the Reasons).

3.2 Claim 1 as granted is directed to an ink for ink-jet printing or digital printing comprising a vehicle and metallic particles. The metallic particles have a weight average particle size of from 40 nm to 1 µm, the loading of metallic nanoparticles is between 2% and 75% and the viscosity of the ink is between 10 and 40 cP.

3.3 At the oral proceedings before the board, the appellant provided paragraphs [0031] (disclosing the claimed particle size range), [0034] and [0042] (disclosing the ink and ink formulation), [0043] (disclosing the claimed loading), [0044], lines 1 to 3 (disclosing the

vehicle) and [0047] (disclosing the viscosity range) of the application as originally filed as the basis for claim 1 as granted.

3.4 However, paragraph [0031] of the application as filed, which refers in general to the average size of the metallic particles or nanoparticles and discloses average particle size ranges, does not disclose the feature that the average particle size is a "**weight** average particle size". Nor is this feature mentioned anywhere else in the application as originally filed. This is not contested by the appellant. Nor is it contested that different types of average (or mean) particle sizes are known in the art, for example the arithmetic mean (or count mean diameter), the mean volume (or mass diameter), or the mean surface area diameter (see document (9), equations (1) to (3) on pages 257 and 258), or that their values can differ substantially (document (9), page 258, second paragraph, lines 7 to 9).

3.5 According to the appellant, the expression "weight average particle size" found its basis in the combined reading of paragraphs [0031] and [0032] of the application as filed. The latter stated that the metallic particles were substantially free of coarse particles, meaning that not more than a certain percent by weight of particles above a certain size was present. From this disclosure, the skilled person understood that the average particle size of the patent was always intended as a value by weight. In support of its assertion, the appellant referred to document (9), according to which the particle size distribution, once obtained, was conveniently plotted, for example, as a cumulative frequency distribution (document (9), figure 3). Measuring the particle size distribution by

number resulted in curve A, measuring it by volume/ weight resulted in curve C. From these curves the percent of particles below or above a certain value could then be determined. Furthermore, the appellant argued that usually the average particle size together with the coarseness gave a useful picture of a batch of particles, from which it concluded that the same type of measurement was used for both parameters. According to the appellant, any other interpretation, for example expressing the average particle size as a measurement by number and the percent of coarse particles as a measure by weight, would be very unusual, so that the only sensible interpretation of average particle size was the weight average particle size.

3.6 The board disagrees with the appellant.

3.6.1 Paragraph [0032] as originally filed relates only to one embodiment of the invention, namely to metallic particles with a particular "coarseness". In this context, the board can accept that the skilled reader, as illustrated in document (9), may use the cumulative frequency data obtained from a measurement of particle size distribution based on volume/weight in order to establish whether or not a particular batch of metallic particles exhibits a coarseness as defined in paragraph [0032]. It does not, however, agree with the appellant's conclusion that this necessarily implies that the average particle size for the metallic particles in general is the weight average particle size. The average particle size defined in paragraph [0031] of the application as filed and the coarseness as defined in paragraph [0032] are two distinct parameters. Thus, the fact that the determination of the coarseness may require a measurement by volume/weight does not justify the

conclusion that the average particle size must also be a value by weight.

3.6.2 Concerning the appellant's argument that the average value together with the coarseness gives a useful picture and that therefore the same type of measurement is used for both values, the board accepts that this may be a reasonable assumption for a batch of metallic particles according to paragraph [0032]. However, such an assumption is not equivalent to a clear and unambiguous disclosure of the feature "weight average particle size", let alone for particles which are not even limited to a particular coarseness, as is the case with the metallic particles as defined in paragraph [0031] and in the present claim 1. Furthermore, there can be no doubt that any batch of particles exhibiting a coarseness as defined in paragraph [0032] can also be characterised by other known average particle sizes, such as the "count mean diameter" or the "diameter of average surface".

3.7 It follows from the above that the replacement of "average particle size" by "weight average particle size" results in the skilled person being presented with technical information which was not clearly and unambiguously derivable from the application as originally filed, either explicitly or implicitly. Consequently, the subject-matter of said claim extends beyond the content of the application as originally filed and the main request is not allowable.

*Auxiliary requests I and II*

4. In claim 1 of both requests the metallic particles present in the ink are characterised by their weight average particle size. Hence, the same observations and

conclusion as in point 3.4, 3.6 and 3.7 above apply, with the consequence that these requests must also be refused.

## Order

## For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Nachtigall A. Lindner

Decision electronically authenticated