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**Datasheet for the decision
of 21 November 2012**

Case Number: T 0410/11 - 3.3.01
Application Number: 04718172.2
Publication Number: 1601728
IPC: C09D 11/00, A23G 3/00,
A21D 13/00
Language of the proceedings: EN

Title of invention:

Water-based inks for printing on confectionery

Patent Proprietor:

MARS, INCORPORATED
BPSI Holdings, Incorporated

Opponent:

Cadbury Holdings Limited

Headword:

Edible ink formulations/MARS, INC.

Relevant legal provisions:

EPC Art. 56, 54
EPC R. 76(2) (c)

Keyword:

"Novelty as ground of opposition - (no) - not substantiated
when filing the opposition"
"Inventive step - (yes) - non obvious improvement"
"Late-filed documents - not accepted - opposition division
used its discretion according to the right principles"

Decisions cited:

G 0007/95, G 0007/93, T 0181/82

Catchword:

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Case Number: T 0410/11 - 3.3.01

DECISION
of the Technical Board of Appeal 3.3.01
of 21 November 2012

Appellant: Cadbury Holdings Limited
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Respondent: MARS, INCORPORATED
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted 10 December 2010
rejecting the opposition filed against European
patent No. 1601728 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman: P. Ranguis
Members: J.-B. Ousset
L. Bühler

Summary of Facts and Submissions

- I. An appeal was filed against the decision of the opposition division to maintain European patent No. 1 601 728 as granted.
- II. The opposition division did not admit late-filed documents (9) to (16) into the proceedings. It also decided that lack of novelty was not a valid ground for opposition. It concluded that the claimed matter was inventive in view of the cited documents.
- III. The following documents are relevant for the present decision:
- (1) KR-2001-0055191 and its English translation (1A)
 - (2) About.com Chemistry, internet printout, dated 09/02/2009.
 - (7) JP 54-6606 and its English translation (7A).
- IV. Claim 1 as granted reads as follows:
- "1. A non-pigmented, water-based, edible ink substantially free of conductivity enhancing salts, comprising:
- 50.0 to 85.0 percent by weight water;
 - 7.0 to 35. 0 percent by weight C₁-C₆ alcohol, propylene glycol or a mixture thereof;
 - 0.5 to 15.0 percent by weight of a fully solvated edible dye;
 - 2.0 to 40.0 percent by weight binder; and a dextrin or gum adhesive agent present in a range of 0.1 percent to 15.0 percent by weight of the ink composition."

V. The appellant (opponent) argued mainly as follows:

- Glycerine was a binder in view of document (2).
- The provision of an alternative edible ink was obvious in view of document (1) / (1A), representing the closest prior art, alone or in combination with either document (2), document (3)/(3A), document (4), document (5), document (6).
- Ethylene glycol was to be regarded as a C₁-C₆ alcohol and hence document (16) should be admitted into the proceedings.

VI. The respondent's arguments can be summarised as follows:

- Documents (9) to (16) were late-filed and were all public documents. There was no change in the circumstances of the case prompting their submission at that stage of the proceedings or justifying their admission on appeal.
- Document (9) defining a binder was redundant with document (2) already on file.
- Document (7)/(7A) represented the closest prior art.

VII. The appellant (opponent) requested that the decision under appeal be set aside and that European patent No. 1 601 728 be revoked.

VIII. The respondent (patent proprietors) requested that the appeal be dismissed, or alternatively that the patent be maintained on the basis of one of auxiliary requests 1 to 4 filed with letter of 12 September 2011. The respondent further requested remittal to the department of first instance with the order to adapt the description if the patent was to be maintained on the basis of one of auxiliary requests 1 to 4.

IX. At the end of the proceedings, the decision of the board was announced.

Reasons for the Decision

1. The appeal is admissible.

2. Admissibility of documents (9) to (16)

2.1 Since the opposition division did not admit these documents into the proceedings, the board should examine whether it used its discretion according to the right principles. In doing so, the board should overrule the department of first instance only if it concludes that it failed to exercise this discretion or exercised it inappropriately (G 7/93, OJ EPO 1994, 775, point 2.6 of the reasons).

2.2 Although the molecular formula of diethylene glycol cited in document (16) contains four carbon atoms, it cannot however be considered as a C₁-C₆ alcohol according to claim 1 of the patent in suit. A clear distinction is made in the wording of claim 1 of the main request between a C₁-C₆ alcohol and propylene glycol; the molecular formula of the latter containing

three carbon atoms. Hence, if diethylene glycol was to be encompassed by the expression "C₁-C₆ alcohol", propylene glycol should also be encompassed by the same expression. Since the wording of claim 1 of the main request makes a clear distinction between the C₁-C₆ alcohols and the propylene glycol, the opposition division rightly concluded that the diethylene glycol mentioned in document (16) does not fall within the ambit of claim 1 of the patent in suit. Furthermore, it is also apparent from the decision of the opposition division and not disputed by the parties that a discussion took place as to the relevance of the late-filed documents. Consequently, in declining to admit this late-filed document the opposition division used its discretion according to the right principles.

Document (10) relates to the possibility of printing images with an ink-jet printer with a resolution higher than 39 dots/cm. Since the resolution was not a feature of claim 1 of the main request, this document was not relevant to assess patentability. Consequently, the opposition division exercised its discretion in an appropriate manner when not admitting this document.

Document (9) defines the term "binder". This teaching however does not add any further information to the information already made available by the other cited documents provided with the grounds of appeal, and in particular document (2). Therefore, the opposition division did not go beyond its discretionary remit and the board has no reason to overrule the way in which the opposition division exercised its discretion.

Since the appellant did not dispute the decision of the opposition division not to admit the other late-filed documents, the board concludes that the opposition division exercised its discretion in an appropriate manner. Consequently, documents (9) to (16) are not admitted into the proceedings.

3. Novelty as a ground for opposition

3.1 In its statement setting out the grounds for opposition of 23 February 2009, the opponent - now appellant - ticked the box in EPO Form 2300 indicating that the patent in suit was opposed *inter alia* for lack of novelty. However, the letter accompanying this form, the only argument put forward to that effect was that at least claim 1 of the patent in suit lacked novelty over documents (1) and (3) to (8), without any further explanations as to the relevant passages in these allegedly novelty-destroying documents.

3.2 Since this objection was not substantiated in the statement setting out the grounds for opposition, the opposition division discussed and examined whether these documents were *prima facie* relevant. Since the opposition division found that none of these documents could call into question the novelty of the subject-matter of the patent in suit, it correctly concluded that the lack of novelty was not a valid ground for opposition in view of Rule 76(2)(c) EPC.

3.3 The board agrees with the findings of the opposition division. Moreover, the appellant no longer disputed them in relation to the relevance of documents (1) and (3) to (8). For these reasons, the board finds that

lack of novelty was a "fresh" ground for opposition. Since the respondent did not agree to the introduction of this ground into the proceedings, it has to be considered as not being a legal basis for objecting to the maintenance of the patent in suit in the appeal proceedings (see G 7/95, OJ EPO 1996, 626, headnote).

4. Main request - Inventive step

4.1 The patent in suit is directed to water-based inks for ink-jet printing on edibles (see page 2, line 7). The focus of the invention is on inks for printing images on non-planar, non-porous hydrophobic surfaces of polished sugar shell confectionery or, in other words, substrates having a sugar shell surface with a wax or fat polish coating (see title, page 2, lines 10, 42; page 4, lines 9-11, lines 12-15; examples, page 8, line 56 to page 9, line 1 related to a substrate which is a white M&M's[®] milk chocolate candy piece, and claim 7).

4.2 Since the parties were not in agreement as to the definition of the closest prior art, from which the person skilled in the art would start, it should be assessed whether document (1)/(1A) or document (7)/(7A) represents this closest prior art.

4.2.1 Document (1)/(1A) describes edible inks containing 3-6 % v/v of a food colour, 5-10 % v/v of propylene glycol 0.5-1 % w/v of gum arabic, 0.5-1 %v/v of edible glycerine, and 80-90 %w/v of purified water (see abstract and page 2, "Configuration and Action of the Invention" of document (1A)). Furthermore, these inks are used to decorate cakes or ice creams (see abstract and four first paragraphs of page 2 of document (1A)).

The appellant, relying on document (2), considered that glycerine was to be seen as a binder and, therefore, that the only difference between the composition of document (1/1A) and the claimed composition was that the binder could be present in a range of 2.0-40.0% in claim 1 of the opposed patent, while it is in an amount of from 0.5-1% in document (1/1A).

Document (2) consists of one page taken from the internet dated 9 February 2009, nearly five years after the filing date of the patent in suit, and listing food additive names starting with G. Among this list one can find under the entry "Glycerin" the following indications: "Binder, Bodying agent, Bulking agent, Filler".

First, there is no clear evidence that this information reflects the common general knowledge at the filing date of the patent. If, after a search using the term "binder", no earlier document could be found, a doubt exists, and the burden of proof is on the appellant/opponent.

It is also pointed out that a page published in the internet cannot be regarded as a textbook reflecting common general knowledge.

Furthermore, the patent relates to ink-jet printing inks. "Binder" in this technical field relates to an ingredient forming a film as stated in the patent in suit (page 6, lines 38-39). There is no evidence that the same meaning is given in food additives technology.

Finally, the board concurs with the finding of the opposition division (page 7, 2nd paragraph) that glycerine cannot be considered as a binder. The patent defines the binder as a film-forming ingredient. This definition is common in the art of inks and does not contradict the common knowledge of the skilled person. Glycerine is not covered by this definition.

Therefore, the content of this document differs from the claimed subject-matter in that there is no binder present in the inks of document (1) and in that the ratios of the different constituents are expressed either in w/v or in v/v whereas the ratios in claim 1 of the main request are expressed in w/w.

4.2.2 Document (7)/(7A) discloses edible inks which may contain *inter alia* water, an edible colouring agent, propylene glycol and an edible resin (see page 1, claim 2 of document (7A)). More particularly, example 3 of document (7A) describes the following ink composition:

Food Green No. 3 (synthetic food colouring)	3.0 weight
Propylene glycol	8.2
Glycerine	1.5
Vinyl acetate resin	5.1
Ion exchange water	82.2

Moreover, these inks can be used on confectionery (see second paragraph of point 5 on page 3 of document (7A)). The ink composition of this specific example differs from the claimed subject-matter in that it does not contain any gum or dextrin as adhesive agent.

From the above, and relying on the structural similarity of the edible inks, either document (1/1A) or document (7/7A) may be seen as the closest state of the art.

- 4.2.3 However, a document is not disqualified as the closest prior art to an invention merely because modifications in the composition of the products are required to arrive at the claimed subject-matter. Rather, when determining the closest state of the art a further consideration to be taken into account is which prior-art document is directed to the same purpose or effect as the claimed invention.

In that respect, it is observed that the main purpose of the patent in suit is to provide water-based inks for printing on confectionery, a use explicitly addressed in document (7/7A), whereas the inks disclosed in document (1/1A) are used to decorate cakes or ice creams.

- 4.2.4 In view of the above, the board concludes that document (7)/(7A) represents the closest prior art.

- 4.3 Starting from document (7)/(7A) as the closest prior art, the problem underlying the patent in suit can be seen in the provision of edible ink compositions avoiding rapid changeover of print designs on surfaces difficult to print on, such as those having a sugar shell surface with a wax or fat polish coating.

- 4.4 The solution proposed in the patent in suit is represented by the edible ink described in claim 1.

4.4.1 It should be assessed whether this problem is credibly solved by the claimed ink.

4.4.2 Table 5 in the patent in suit shows the technical effect (before and after abrasion) of a candy piece having a sugar shell with a carnauba wax coating (see page 10, lines 9 to 10 of the patent in suit) printed with three ink compositions. The brightness of the candy piece was measured before and after abrasion. This difference is expressed by the parameter " ΔL ".

Example	ΔL	Std. deviation
1	1.2	1.2
6	1.6	1.4
10 (comparative)	4.2	0.4

Example 1 is an ink according to the present invention containing two binders, namely shellac and povidone and a dextrin.

Example 6 is an ink according to the present invention containing one binder, namely povidone (polyvinylpyrrolidone) and a dextrin.

Comparative example 10 contains two binders, namely shellac and povidone, water and one edible dyestuff. Therefore, it represents an example falling within the scope of document (7)/(7A) (see page 1, claim 3 in conjunction with claim 2 and point 4, lines 3 to 5). However, this specific comparative example 10 contains neither a dextrin nor a gum adhesive. It can thus be

taken into account as a comparative example to assess the presence of an improvement vis-à-vis the closest prior art, since it differs from the claimed matter only by the novelty-rendering feature, namely a gum adhesive or a dextrin (see T 181/82, OJ EPO, 1984, 401).

4.4.3 A large ΔL in Table 5 corresponds to a poor image adhesion on the sugar shell (see page 10, lines 21 to 22 of the patent in suit). The above table thus shows that the inks of the invention containing a dextrin and at least one binder are more resistant to abrasion than inks containing binders but no dextrin.

4.5 This resistance to abrasion was shown only when a dextrin is present. The appellant did not dispute that this resistance to abrasion could not be achieved when a dextrin is replaced by a gum adhesive, and the board too has no reason to conclude otherwise.

4.5.1 Therefore, it can be concluded that the problem is credibly solved over the whole area of claim 1.

4.5.2 It remains to be decided whether or not the claimed solution is obvious over the prior art.

Neither document (1)/(1A) nor document (7)/(7A) gives the person skilled in the art a hint that the simultaneous presence in edible ink compositions of at least one binder and a dextrin or a gum adhesive would solve the problem defined above, that is to say would lead to edible ink compositions having an unexpected resistance to abrasion.

4.6 The appellant built its argument starting from document (1)/(1A) as closest prior art. Since the appellant did not add any further argument after the board gave its opinion as to the closest prior-art document, namely document (7)/(7A), the board concludes that the subject-matter of claim 1 of the main request is inventive. This finding also applies to claim 2, which is dependent on claim 1. The printed edible product claimed in claims 3 to 6 contains all the features of claim 1, and claim 7 and its dependent claims 8 to 10, relating to the process using the edible ink compositions of claim 1, contain also all the features of the edible ink of claim 1.

4.7 Since the main request fulfils the requirements of the EPC, the assessment of the patentability of auxiliary requests 1-4 is superfluous.

Order

For these reasons it is decided that:

1. The appeal is dismissed.

The Registrar

The Chairman

M. Schalow

P. Ranguis