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Datasheet for the decision of 1 April 2014

Case Number: T 0782/12 - 3.3.09

Application Number: 02779842.0

Publication Number: 1450619

IPC: A23G3/26, A23G3/00, A23G3/20, A23G4/02

Language of the proceedings: EN

Title of invention:
METHOD FOR HIGH SPEED COATING OF CONFECTIONERY CORES

Patent Proprietor:
Cadbury Adams USA LLC

Opponents:
Mars Incorporated
Gumlink A/S

Headword:

Relevant legal provisions:
EPC Art. 83

Keyword:
Sufficiency of disclosure - (no)

Decisions cited:
T 1414/08, T 0593/09

Catchword:

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Case Number: T 0782/12 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 1 April 2014

Appellant: (Patent Proprietor)	Cadbury Adams USA LLC 2711 Centerville Road, Suite 400, Wilmington, DE 19808, (US)
Representative:	Wilson Gunn Charles House 148/9 Great Charles Street Birmingham B3 3HT (GB)
Respondent 01: (Opponent 01)	Mars Incorporated 6885 Elm Street McLean, Virginia 22101-3883 (US)
Representative:	Marlow, Nicholas Simon Reddie & Grose LLP 16 Theobalds Road London WC1X 8PL (GB)
Respondent 02: (Opponent 02)	Gumlink A/S Dandyvej 19 7100 Vejle (DK)
Representative:	HOFFMANN EITLE Patent- und Rechtsanwälte Arabellastrasse 4 81925 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 30 January 2012 revoking European patent No. 1450619 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman:	W. Sieber
Members:	J. Jardón Álvarez
	K. Garnett

Summary of Facts and Submissions

I. This decision concerns the appeal filed by the proprietor of European patent No. 1 450 619, Cadbury Adams USA LLC, against the decision of the opposition division to revoke the patent.

II. Both opponents, Mars, Incorporated (opponent 01) and Gumlik A/S (opponent 02), had requested revocation of the patent in its entirety on the grounds that the claimed subject-matter lacked novelty and inventive step (Article 100(a) EPC), that the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC) and that the patent contained subject-matter which extended beyond the content of the application as originally filed (Article 100(c) EPC).

The documents cited during the opposition proceedings included:

D1: Sugar. A User's Guide to Sucrose, Edited by N.L. Pennington *et al.*, published by Van Nostrand Reinhold, New York, 1990 (3 pages);

D3: US 5 495 418 A; and

E1: Wikipedia printout of "Brix" dated 27 May 2009 (3 pages).

III. In its decision, announced orally on 16 November 2011 and issued in writing on 30 January 2012, the opposition division revoked the patent. The decision was based on a main request and eight auxiliary requests.

The opposition division revoked the patent because in its opinion:

- the subject-matter of claim 6 of the main, first, second and third auxiliary requests extended the scope of protection of the granted patent (Article 123(3) EPC);

- the subject-matter of claim 6 of the fourth, fifth, sixth and seventh auxiliary requests infringed the requirements of Article 123(2) EPC; and

- the subject-matter as defined in claims 1 and 10 of the eighth auxiliary request was not sufficiently disclosed (Article 83 EPC).

Concerning sufficiency of disclosure the opposition division stated that the fact that the opposed patent failed to indicate the tool and the measurement conditions for the Brix parameter prevented the person skilled in the art from establishing the Brix value of the solution he was working with and, consequently, from carrying out the claimed method.

IV. On 2 April 2012 the patent proprietor (in the following: the appellant) filed an appeal and on the same day paid the prescribed fee.

The statement setting out the grounds of appeal was filed on 29 May 2012 and included a revised main request together with three auxiliary requests. The appellant requested that, if the board were to find that any of the requests fulfilled the requirements of Articles 123 and 83 EPC, the case be remitted back to

the opposition division for the further consideration of novelty and inventive step.

The appellant also referred to the following further documents:

D24: Old Maple Manual-Making Value Added Products, Section 11, pages 149 to 165, not-dated;

D25: Internet page http://www.siropderable.ca/Afficher.aspx?page=60&langue=en, dated 16 May 2012; and

D26: Google books extract of the "Handbook of Food and Analytical Chemistry, Water, Proteins, Enzymes, Lipids, & Carbohydrates." (1 page), not-dated. [this document was referred to as D21 in the statement of grounds of appeal and renumbered as D26 by the board].

V. Replies to the statement of grounds of appeal were filed:

- on 10 October 2012 by opponent 02 (in the following: respondent 02); and

- on 16 October 2012 by opponent 01 (in the following: respondent 01).

Both respondents disputed all the arguments submitted by the appellant and requested that the appeal be dismissed. Respondent 01 also filed the following further document:

A1: US 6 485 763 B1.

VI. On 2 October 2013 the board dispatched the summons to oral proceedings scheduled to take place on 1 April 2014. In a communication dated 11 December 2013, the board indicated the points to be discussed during the oral proceedings. The board also expressed its preliminary view that it tended to agree with the reasoning of the respondents that the invention was not sufficiently disclosed.

VII. By letter dated 3 March 2014 the appellant withdrew its request for oral proceedings and informed the board that it did not intend to be represented at the oral proceedings. The appellant also filed new auxiliary requests 2 to 5, auxiliary requests 2 and 3 being new requests filed in the light of the comments of the board, and auxiliary requests 4 and 5 being previous auxiliary requests 2 and 3 renumbered.

Independent claims 1, 6 and 10 of the main request read as follows:

"1. A method for coating layers of a sugar syrup material on pieces of confectionery material, said method comprising the steps of:

(a) introducing pieces of confectionery material (20) into a coating mechanism (34);
(b) forwarding the sugar syrup material from a container (134) for housing the sugar syrup material through a conduit (136) to the coating mechanism (102);
(c) maintaining the sugar syrup material at an elevated temperature of 75-100°C within the container (134) and conduit (136) to prevent the solids in the sugar syrup material from crystallising or precipitating out of the sugar syrup material;

(d) spraying at least one layer of sugar syrup material (42) on each of said pieces of confectionery material, said sugar syrup material having a solid concentration of 80-84 Brix; and;
(e) drying said at least one layer of said sugar syrup material to form a coating of said sugar syrup material on said pieces of confectionery material."

"6. The method of coating layers of a sugarless syrup material on pieces of confectionery material, said method comprising the steps of:

(a) introducing pieces of confectionery material into a coating mechanism (34);
(b) forwarding the sugarless syrup material from a container (134) for housing the sugarless syrup material through a conduit (136) to the coating mechanism (102);
(c) maintaining the sugarless syrup material at an elevated temperature of 75-100°C within the container (134) and conduit (136) to prevent the solids in the sugarless syrup material from crystallising or precipitating out of the sugarless syrup material;
(d) spraying at least one layer of sugarless syrup material on each of said pieces of confectionery material, said sugarless syrup material having a solid concentration of 70-74 Brix; and;
(e) drying said at least one layer of said sugarless syrup material to form a coating of said sugarless syrup material on said pieces of confectionery material."

"10 A method of forming a hard candy shell on cores of gum material, said shell being formed by successive layers of a syrup material, said method comprising the steps of:

(a) introducing cores of gum material into a coating mechanism;
(b) forwarding the syrup material from a container housing the syrup material through a conduit to the coating mechanism;
(c) spraying successive layers of a syrup material on said cores of gum material in order to form a hard candy shell on said cores and form finished pellets of gum material;
(d) said syrup material
(i) being a sugar syrup and having a solid content in the range 80-84 Brix, or
(ii) being a sugarless syrup material and having a solid content in the range 70-74 Brix; and
(e) maintaining said syrup material at an elevated temperature of 75-100°C within the container and conduit sufficiently to prevent crystallization and precipitation of its solids."

Claims 2 to 5, 7 to 9, and 11 are dependent claims.

These claims are based on the granted claims but now with the requirement that the elevated temperature in the container (134) and the conduit (136) is defined as being from 75-100°C. Moreover, claim 6 has been amended to correct alleged errors and claim 10 has been amended to explicitly require the Brix values recited in granted claims 11 and 12.

The claims of the first auxiliary request differ from the claims of the main request in that the three independent claims specify that the sugar syrup material is maintained at its elevated temperature of 75-100°C "through heating of the container and conduit".

The claims of the second and third auxiliary requests correspond respectively to those of the main and first auxiliary requests but without the correction to claim 6.

The claims of the fourth and fifth auxiliary requests correspond respectively to those of the main and first auxiliary requests but with claims 6 to 9 now having been deleted.

VIII. Oral proceedings were held before the board on 1 April 2014 in absence of the appellant.

IX. The written arguments presented by the appellant, insofar as they are relevant for the present decision, may be summarised as follows:

- The skilled person would indeed know exactly which instrument to use to measure the Brix value of a sugar solution. Although Brix values could be measured using specific gravity or refraction index measurements, at the priority date of the invention the refractometer was the commonly accepted standard method in the art for measuring Brix values. There was no confusion in the choice of instrument of use.

- Even if a saccharimeter would be used, the alleged ambiguity in the Brix value was a clarity issue under Article 84 EPC and not one of insufficiency of disclosure. The skilled person would still be able to carry out the invention, as such ambiguity would affect only the end values of the range used. The appellant relied on decision T 1414/08 in support of this argument.

- The skilled person was told in the claims the temperature range within which to measure the Brix value. The claims specified that the elevated temperature at which the sugar or sugarless syrup materials was maintained as being in the range of 75-100°C. It would then be evident for the skilled person that the Brix value in the claims must refer to the value of the syrup materials measured at the temperature of the syrup when stored in the container immediately prior to its application as a coating. In fact, a temperature of 80°C was used in the example of the patent.

X. The arguments of the respondents, insofar as they are relevant for the present decision, may be summarised as follows:

- The Brix parameter was the key feature of the invention distinguishing the claimed method from the prior art. The skilled person must be in a position to determine whether or not a given sugar/sugarless syrup material met the Brix requirement.

- In their view this could not be done because there were two different methods based on two different properties for measuring the Brix and the patent was silent about which method had to be used.

- In addition, the Brix parameter had to be measured by default at 20°C and this was not possible for the claimed solutions, as now admitted by the appellant. The specification was silent about which temperature was to be used. This resulted in a fundamental problem as in the absence of a

temperature no meaningful measurement could be made.

- In the absence of such information the skilled person was at a loss as to how to put into practice the claimed invention, and consequently the invention was not sufficiently disclosed.

XI. The appellant requested that the decision under appeal be set aside, that the compliance of its main request or any of its auxiliary requests 1 to 5 with the requirements of Articles 83 and 123 EPC be acknowledged and that the case be remitted to the opposition division for further consideration of novelty and inventive step, the main request and auxiliary request 1 being those filed with the grounds of appeal dated 29 May 2012, auxiliary requests 2 to 5 being those filed with the letter dated 3 March 2014.

Both respondents requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

MAIN REQUEST

2. The invention underlying the opposed patent

2.1 The patent in suit relates to confectionery products that have an outer shell or coating of sugar and/or sugarless materials (see paragraph [0001] of the patent specification). The patent aims to improve prior art coating methods by providing a process which is faster,

less expensive and more efficient than known prior art processes and yet produces a high quality coated product (see [0006] and [0010]).

2.2 This is said to be achieved by increasing the solid content in the syrup used to coat the confectionery products. This measure, together with the heating of the holding tanks and conduits in which the syrups are stored and transported, reduces the liquid content of the syrup material and the time necessary to dry the coating (see [0009] and [0021]).

2.3 The use of sugar syrup materials or sugarless syrup materials of higher concentration than those used in the prior art is therefore the key technical feature of the claimed invention which distinguishes it from the prior art methods (see [0049] and [0050]) and which contributes to the solution of the technical problem underlying the invention (see [0066] and [0067]).

2.4 The amount of solid content in a sugar or sugarless solutions is discussed in the patent specification by reference to the "Brix" standard ([0049]).

The set of claims of the main request includes three independent claims directed to coating methods using a sugar syrup material (claim 1) or a sugarless syrup material (claim 6). Claim 10 refers to both alternatives in a method of forming a hard candy shell on cores of gum material. In all the claims the material used is defined by its solid concentration in terms of its Brix value (cf. claims 1 and 6, step (d) and claim 10, steps (d)(i) and (d)(ii)).

2.5 To carry out the claimed method, the person skilled in the art must be in a position to prepare a material

having the required concentration, or in other words, the skilled person must be in a position to determine whether or not a given syrup material meets the Brix requirement.

3. Sufficiency of disclosure

3.1 The essence of the respondents' attacks on sufficiency of disclosure is that the skilled person is in fact not in a position to prepare the required sugar/sugarless syrup materials because the skilled person does not know how to measure the Brix value of the syrup materials required in the claims.

3.2 Accordingly, the question to be answered is whether or not the skilled person is taught by the patent specification, or would already know because it was common general knowledge at the filing date of the patent, how to determine the Brix value of the syrup materials used.

3.3 Although the patent specification is silent about how to measure the Brix value, it is well known in the field that Brix is a measurement of the mass ratio of dissolved sugar (sucrose) to water in a solution (also, the percentage by weight of sucrose in a water solution). It is measured with a saccharimeter that measures specific gravity of a solution or more easily with a refractometer which measures the refractive index (see, for instance, E1, first paragraph).

The Brix scale is also used to measure solutions other than pure sucrose and water. Thus, a Brix reading will normally be used to obtain the corresponding specific gravity or refractive index of a solution that, by practice, is agreed to correspond to a solution of pure

sucrose and water at a set reference temperature, usually 20°C (see D1, page 49, lines 6 to 10 of the paragraph with the Heading 'Brix'; see also E1, third paragraph).

3.4 As pointed out by the respondents, in the present case the following problems arise with the measurement of the Brix value:

(i) The materials used are not pure sucrose and the Brix value would vary with the technique selected for the measurement; and

(ii) The measurements in the patent specification cannot be done at the standard temperature of 20°C, the patent specification being silent about the temperature to be used.

3.5 Concerning (i) it is noted that, except for a pure solution of sucrose on water (the system for which the Brix value was originally intended), the selected measurement technique will have an influence on the measured value because the components of the sugar/ sugarless material will have varying effects on specific gravity and refractive index of the syrups.

3.5.1 In this context reference is made to the measurements conducted by respondent 01 during the opposition proceedings showing that significantly different values are obtained depending on the technique used. In the example put forward by respondent 01, the Brix value of a 60wt% aqueous xylitol solution at 20°C was 56 °Brix by measuring its refractive index and 50 °Brix by measuring its specific gravity.

3.5.2 The appellant argued that the measurement of the refractive index using a refractometer had become the commonly accepted and standard method used in the art, so that there would be no confusion for the skilled person in the choice of instrument to use. It relied on the disclosure of D3, where a refractometer was used and where no mention was made of any other measurement method (column 1, lines 20 to 22) and on the newly filed document D26, stating that the soluble solids-content in fruit juices was determined by refractometry (last paragraph of D26).

3.5.3 However, this argument was refuted by the respondents, who maintained that at the priority date of the patent specific gravity was just as likely to be used, as shown by document A1 (column 4, lines 9 to 14).

3.5.4 The board accepts that this evidence supports the respondent's argument on this point and concludes therefore that there is an uncertainty about which technique should be used to measure the Brix value and that different techniques give different values.

3.6 Apart from that, and crucial for the present decision, is the fact that the specification does not specify the temperature at which the refractive index measurement or the specific gravity measurement should be made (point 3.4(ii) above).

3.6.1 As explained in point 3.3 above, according to the definition of the Brix value, this value correlates to the specific gravity or refractive index as measured at 20°C.

3.6.2 The skilled person would assume that the measurement must be carried out at 20°C. In fact, this was the

position of the appellant during the opposition proceedings (cf. page 3 of its letter dated 11 January 2010, second full paragraph).

3.6.3 It is, however, clear from the examples in the patent that the Brix values required in the claims are not measured at 20°C. Thus, the sugarless coating of paragraph [0060] contains, *inter alia*, 75 Kg of maltitol, an amount which cannot be dissolved in 30.4 Kg of water at 20 °C. Therefore the Brix value of 72 given for this sugarless syrup must have been measured at an elevated temperature.

3.6.4 This is now accepted by the appellant, it being argued instead that the higher content of solids used for the coating can only be dissolved at a higher temperature. It is said that it would be thus evident for the skilled person that he must employ a temperature that is above ambient temperature to measure the Brix value and to determine the solids content of the solution. In its present view "the Brix value in the claims must be referring to the Brix value of the syrup material measured at the temperature of the syrup when stored in the container immediately prior to its application as coating" (see page 6 of the statement of grounds of appeal, point 1.38).

3.6.5 The board cannot accept this argument of the appellant. First of all, the temperature mentioned in the claims is not a single temperature, but a range of temperatures varying from 75°C to 100°C. Different Brix values would be obtained depending on the temperature used for the measurement, adding a further uncertainty to the variations due to the technique of measurement discussed above.

Moreover, it is not mandatory that the temperature used for the Brix measurement must be the same as the temperature of the syrup material within the container. Other temperatures, for instance 60°C, at which the required amount of solids can be dissolved would be equally possible.

3.7 In summary, neither from the opposed patent nor on the basis of his common general knowledge would the skilled person know which sugar/sugarless syrup materials should be used because he would not know at which temperature and with which technique the required Brix value has to be determined.

3.8 The appellant, referring to T 1414/08 of 5 April 2012 (not published in the OJ EPO), argued that the possible different results when using a refractometer or a saccharimeter to measure the Brix value would result in an ambiguity only at the edges of the claimed range and that such ambiguity concerned a clarity problem under Article 84 EPC and not one of sufficiency under Article 83 EPC.

3.9 This argument cannot be followed by the board for the following reasons:

3.9.1 The board accepts that in a case such as the present one, where an undefined parameter is used in the claims and no details of the measuring are supplied, it is necessary to establish whether there is a problem with respect to Article 83 EPC or Article 84 EPC (see Case Law of the Board of Appeal of the EPO, 7th edition 2013 Section II.C.7.2.).

3.9.2 According to T 593/09 of 20 December 2011 (not published in the OJ EPO), what is decisive in such

situations is whether the parameter is so ill-defined that the skilled person is not able, on the basis of the disclosure as whole and using his common general knowledge, to identify (without undue burden) the technical measures necessary to solve the problem underlying the patent at issue (see point 4.1.4).

3.9.3 This is the case here because the skilled person does not know how to determine the Brix value (see point 3.7 above) and this feature is the key feature of the claimed invention (see point 2.5 above). The teaching of the patent is at most an invitation to perform a research program in order to identify suitable sugar/ sugarless solutions. In fact, the Brix parameter is so ill-defined that the skilled person, when trying to carry out the invention underlying the opposed patent, would have to test numerous sugar solutions with varying concentrations at various temperatures to ascertain their performance in the claimed coating method. This amounts, in the board's view, to an undue burden.

3.9.4 The conclusions drawn in T 1414/08, wherein the ambiguity related to an uncertainty as to the actual end values of a range for a parameter do not apply to the present case. As explained above, the present case does not simply concern the accuracy of measurement of the end values of a range. Rather, the accuracy of measurement goes to the heart of the invention.

3.10 In view of the above, the invention underlying the opposed patent is insufficiently disclosed. Consequently, the main request must be refused.

AUXILIARY REQUESTS

4. *Sufficiency of disclosure*

4.1 In the same manner as for the claims of the main request, all independent claims of all auxiliary requests define the sugar/sugarless syrup material used for the coating by its solid concentration in Brix degrees (feature (d) of the respective method claims).

4.2 The reasoning in relation to sufficiency of disclosure for the claims of the main request applies *mutatis mutandis* to the subject-matter of the claims of all auxiliary requests, with the consequence that none of the auxiliary requests fulfills the requirements of sufficiency of disclosure.

5. In summary, none of the appellant's requests is allowable. Under these circumstances there is no need for the board to deal with the further objections raised by the respondents.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber

Decision electronically authenticated