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D E C I S I O N
of 21 March 2006

Case Number: T 0560/03 - 3.3.09

Application Number: 93922694.0

Publication Number: 0719092

IPC: A23G 3/30

Language of the proceedings: EN

Title of invention:

Hard coated chewing gum with improved shelf life, with xylitol and polyol coatings

Patentee:

WM. WRIGLEY JR. COMPANY

Opponent:

DANDY A/S

Headword:

Hard coated chewing gum/WM. WRIGLEY JR. COMPANY

Relevant legal provisions:

EPC Art. 56

Keyword:

"Main request - inventive step - yes: ex post facto analysis not allowed for the assessment of inventive step"

Decisions cited:

-

Catchword:

-



Case Number: T 0560/03 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 21 March 2006

Appellant:
(Opponent)

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Representative:

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Respondent:
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Representative:

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Decision under appeal:

Interlocutory decision of the Opposition
Division of the European Patent Office posted
17 January 2003 concerning maintenance of
European patent No. 0719092 in amended form.

Composition of the Board:

Chairman: P. Kitzmantel
Members: J. Riolo
W. Sekretaruk

Summary of Facts and Submissions

I. European patent No. 0 719 092 based on application No. 93 922 694.0 was granted on the basis of 25 claims.

Independent Claims 1 and 18 as granted read as follows:

"1. A dual composition hard coated chewing gum, comprising:
from 35 to 90 wt% gum centre, comprising a bulk portion, chewing gum base and one or more flavouring agents; and
from 10 to 65 wt% outer coating containing from 50 to 100 wt% xylitol and non-xylitol polyol, the outer coating comprising at least two sequential layers at least one layer of which comprises from 50 to 100 wt% xylitol and at least one other layer of which comprises from 50 to 100 wt% non-xylitol polyol but does not contain 50 wt% or more hydrogenated isomaltulose."

"18. A method of forming a dual composition hard coated chewing gum, comprising the steps of:
forming a gum centre including a bulk portion, a chewing gum base portion, and one or more flavouring agents;
forming a non-xylitol polyol liquid coating syrup comprising solvent and from 50 to 80 wt% non-xylitol polyol;
applying a plurality of coats of the non-xylitol polyol liquid coating syrup to the gum centre;
forming a xylitol liquid coating syrup comprising solvent and from 50 to 85 wt% xylitol;

applying a plurality of coats of the xylitol liquid coating syrup to the non-xylitol polyol-coated gum centre; and
evaporating the solvent from each coat of the xylitol and non-xylitol polyol liquid coating syrups, prior to applying the next coat;
the number of coats of the xylitol and of the non-xylitol polyol which are applied being sufficient to provide a coating constituting of from 10 to 65 wt% of the total coated chewing gum product."

II. Notice of opposition was filed against the granted patent by the appellant (opponent).

The patent was opposed under Article 100(a) EPC for lack of novelty and inventive step and under Article 100(b) EPC for insufficiency of disclosure.

The following documents *inter alia* were cited during the proceedings:

- (1) EP-A-0 229 594
- (2) WO-A-88/08671
- (3) Scientific & Technical Surveys, ISSN 0144-2074, No. 173, June 1992, pages 30 to 35

III. In its reasons for the decision under appeal, the Opposition Division found that the set of claims of the main request submitted with the letter dated 23 May 2001 met the requirements of the EPC.

This set of claims differs from the set of claims as granted in that the expression "having different compositions," was inserted after the wording "comprising at least two sequential layers" in Claim 1.

Furthermore, the set of claims of the main request no longer comprised granted Claims 19 and 20 which had been deleted therefrom with consequential renumbering of the subsequent claims as well as of their references to the other claims.

Concerning the objection under Article 100(b), the Opposition Division found that the specification provided enough details to carry out the invention, in particular in view of the numerous examples, and that the opponent's objections in that respect were not substantiated by appropriate evidence.

It also concluded that document (2) did not anticipate the subject-matter of the contested patent because it did not disclose that the coating layers had "different compositions".

As regards inventive step, the Opposition Division defined the problem to be solved by the patent in suit as the provision of a chewing gum with improved coating quality which was shelf stable when constantly subjected to atmospheric moisture.

It considered that document (2), which concerned also hard-coated chewing gum comprising a sugarless hygroscopic sweetener, represented the closest state of the art.

As this document did not suggest that xylitol could be present in a separate layer, but rather disclosed that xylitol was not appropriate because it was not substantially hygroscopic, it concluded that the subject-matter of the attacked patent was not obvious vis-à-vis the prior art. The more so, because the skilled person would rather avoid having separate layers with different compositions as this would require complicated equipment and would be time consuming.

The further citation document (1) was regarded as non-relevant because it related to a different problem, namely the provision of smooth and non-flaky coatings, and because it did not consider the use of different polyol sweeteners in different layers. In the Opposition Division's view, this document only contemplated that polyvinylpyrrolidone, i.e. the ingredient discovered as useful and necessary for achieving the desired quality of the coatings, could be omitted from some of the layers but not that different layers contained different polyol sweeteners.

The disclosure of document (3) was not considered relevant for the assessment of inventive step.

- IV. The appellant lodged an appeal against the said decision.

- V. Oral proceedings were held before the Board on 21 February 2006.

VI. During the appeal procedure, the appellant only maintained its objections with respect to inventive step.

It essentially argued that, as the gum centre of the hard coated chewing gum according to the contested patent was identical to those described in document (2) and since the hard coated chewing gum of document (2) had also obviously the same quality (crunchy coating), the only difference vis-à-vis this prior art document resided merely in the presence of a supplementary xylitol coating.

It therefore considered, in the light of document (3), which disclosed comparable hygroscopic properties for sorbitol and xylitol, that, in the absence of any advantageous and/or surprising effect, it would have been obvious for the skilled person to add a further xylitol coating.

It moreover put forward that the alternative in Claim 1 relating to a hard coated chewing gum wherein the xylitol layer was under the non-xylitol polyol layer would probably not solve the problem of moisture absorption defined in the patent in suit in the case of the use of sorbitol as non-xylitol polyol, because the xylitol layer would then act as a moisture barrier between the hygroscopic sorbitol layer and the low water content gum centre.

VII. The respondent, with its letter dated 15 September 2003, filed a set of claims for a first auxiliary request. In its written and oral submissions it primarily argued that the reasoning of the appellant was based on

hindsight as none of the available prior art documents disclosed or suggested the use of two sequential layers having different compositions, namely one xylitol layer and one non-xylitol polyol layer, in order to improve the shelf life.

As to the second objection raised by the appellant, it observed that the latter has not provided any evidence to substantiate its supposition.

VIII. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 719 092 be revoked.

The respondent requested that the appeal be dismissed, or, alternatively, that the patent be maintained on the basis of the set of claims of the auxiliary request filed with its letter of 15 September 2003.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request*
 - 2.1 Articles 83 and 54 EPC.

The decision under appeal held that the subject-matter of the main request met the requirements of Articles 83 and 54 EPC.

The Board notes moreover that the appellant did not maintain these opposition grounds anymore during the appeal procedure.

As the Board sees no reason to differ from the conclusions of the Opposition Division as expressed in its decision (see points 3 and 4 of the decision), these grounds need not to be dealt with in further detail.

2.2 Article 56 EPC.

2.2.1 Document (2) discloses a dual composition hard coated chewing gum comprising, according to Claim 9 and to page 9, lines 23 to 25, from 10 to 75 wt% outer coating containing from 50 to 100 wt% of a non-xylitol polyol (see Claims 2 to 6; Example 2: 100% sorbitol) and, conversely, from 25 to 90 wt% gum centre comprising, *inter alia*, a bulk portion, a chewing gum base and one or more flavouring agents (see reference in Example 2 to the ingredients of the chewing gum center of Example 1).

Thus, document (2) anticipates the features of Claim 1 of the contested patent referring to a dual composition hard coated chewing gum comprising from 35 to 90 wt% gum centre, comprising *inter alia* a bulk portion, a chewing gum base and one or more flavouring agents and from 10 to 65 wt% outer coating containing from 50 to 100 wt% of a non-xylitol polyol.

The hard coated chewing gum of document (2) is described as having a crunchy coating identical in appearance, taste, and mouthfeel to a sugar coating

(page 2, 2nd paragraph; page 4, lines 16 to 19; Example 2, penultimate sentence).

The patent is concerned with the problem of providing sugarless hard-coated chewing-gum having an improved coating quality and extended shelf life with respect to moisture absorption (page 2, lines 3 and 4; page 4, lines 24 to 29).

According to the examples of the patent in suit, the obtained products have a crunchy coating (examples 2 to 4).

2.2.2 As agreed by both parties, document (2), which discloses a hard coated chewing gum having a gum centre whose composition meets the requirements of the contested patent and a polyol coating which is also crunchy, can be regarded as the closest state of the art.

In that respect, the Board observes that the comparative test provided in the contested patent [paragraph [0075]] in order to demonstrate a shelf life improvement of "inventive" chewing gum products (examples 2 to 4) over that of a "comparative" product having an all-xylitol coating (comparative Example 1) does not concern products according to this prior art, so that they cannot be taken into account for the definition of the problem to be solved vis-à-vis document (2).

The problem to be solved by the claimed subject-matter vis-à-vis document (2) can therefore only be defined as the provision of a further hard coated chewing gum

having a crunchy coating, i.e. as the provision of an alternative.

This conclusion of the Board expressed during the oral proceedings was moreover not contested by the respondent.

This problem is solved by the dual composition hard coated chewing gum of Claim 1 of the contested patent, in which an additional coating containing from 50 to 100 wt% of xylitol is present.

In the light of the working examples disclosed in the patent in suit, the Board is satisfied that the problem has effectively been solved.

The question to be answered is thus whether the proposed solution, namely the addition of a further separate coating containing from 50 to 100 wt% of xylitol, would be obvious to the skilled person faced with the problem defined above in the light of the prior art.

In that respect, the Board observes firstly, that document (2) is totally silent about the use of two sequential coating layers for the gum centre having different compositions, and, secondly, that document (2) explicitly states: "Xylitol and mannitol, however, are not considered substantially hygroscopic in accordance with the present definition and are therefore, not contemplated by the present invention" (page 9, lines 4 to 7 from bottom).

Thus, the closest state of the art teaches away from the subject-matter of the contested patent since it even advocates to avoid the use of xylitol.

As none of the other available documents contains any hint to that end either, it can only be concluded that the solution according to Claim 1 of the patent in suit cannot be derived in an obvious manner from the cited prior art.

Accordingly, the subject-matter of Claim 1 involves an inventive step.

The same conclusion applies to the subject-matter of process Claim 18, which is directed to the preparation of one of the two alternative embodiments encompassed by the product Claim 1, i.e. a chewing gum having an xylitol containing coating layer over a non-xylitol polyol coating layer.

2.2.3 For the reasons to follow, the above conclusions of non-obviousness are not affected by the appellant's arguments.

Essentially it contended that the claimed solution was not inventive because, in the absence of any technical effect, the addition of a further coating layer with xylitol would be just an obvious measure in the light of document (3), which described the hygroscopic properties of various sugar polyols and in particular the hygroscopicity of xylitol, the latter being slightly less hygroscopic than sorbitol but still comparable.

The Board does not share this opinion for the reasons given above (see 2.2.2). Indeed, the question to be answered in the present case with regard to the assessment of inventive step is not just whether the choice of xylitol is obvious and/or advantageous. It is instead whether the prior art suggests the use of two sequential layers having different compositions as coating for a hard coated chewing gum one of them comprising xylitol.

As indicated above, the available prior art is totally silent in that respect, so that the claimed alternative solution cannot be derived from this prior art.

It is indeed only after reading the patent in suit that the skilled person becomes aware of this solution, so that the appellant's reasoning is clearly based on an *ex post facto* analysis.

Moreover, as to document (3), the Board notes that the hygroscopicity values indicated in table 27 (page 35) concern pure sugar polyols. Having regard to the results in the table in the description of the contested patent, it appears that the behaviour of the polyols with respect to moisture absorption does not correspond to their moisture absorbance contribution when present in the outer coating of a chewing gum.

In fact, whereas, according to table 27 of document (3) lactitol and xylitol have an identical hygroscopicity at 25°C and 75% relative humidity, it appears that the hygroscopicity of these polyols measured under very similar conditions in the tested chewing gum is completely different, because the moisture gain of the

xylitol containing test product is much higher than that of the lactitol containing test product (compare examples 1 and 3 in the table on page 9 of the patent specification).

Accordingly, it appears that the information relating to hygroscopicity contained in document (3) for the pure polyols cannot be used to predict their hygroscopicity once they are present in a chewing gum coating.

The information in this document is therefore not considered pertinent in the present situation.

Concerning the appellant's further objection relating to the alternative in Claim 1 wherein the xylitol containing coating layer is present under the non-xylitol polyol containing coating layer (see point VI above), the Board notes that no concrete evidence was provided to substantiate the appellant's allegation, which was moreover made for the first time during the oral proceedings.

The Board considers therefore that the appellant, who has the burden to prove its allegation, has failed to establish that the claimed solution is not also valid for this particular embodiment of Claim 1.

Under these circumstances, the Board concludes that the grounds of opposition, in particular that of lack of inventive step, do not prejudice the maintenance of the patent in the form as maintained by the Opposition Division.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Magliano

P. Kitzmantel