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**Datasheet for the decision  
of 6 June 2007**

**Case Number:** T 0589/04 - 3.3.09

**Application Number:** 93907161.9

**Publication Number:** 0652712

**IPC:** A23G 3/30

**Language of the proceedings:** EN

**Title of invention:**

Improved wax-free low moisture chewing gum

**Patentee:**

WM. WRIGLEY JR. COMPANY

**Opponent:**

PERFETTI SpA  
Pfizer Inc.

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 54, 56, 123(2)

**Keyword:**

"Article 123(2): Amendment of the range "0-30wt%" to "30wt% or less" admissible"

"Novelty (yes)"

"Inventive step (no)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 0589/04 - 3.3.09

**D E C I S I O N**  
**of the Technical Board of Appeal 3.3.09**  
**of 6 June 2007**

**Appellant:** PERFETTI SpA  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office orally  
announced 21 January 2004 and posted  
3 March 2004 concerning maintenance of the  
European No. 0652712 in amended form.

**Composition of the Board:**

**Chairman:** P. Kitzmantel  
**Members:** W. Ehrenreich  
M.-B. Tardo-Dino

## Summary of Facts and Submissions

I. Mention of the grant of European patent No. EP 0 652 712 in respect of European patent application No. 93 907 161.9, filed as International application No. PCT/US 93/01900 on 2 March 1993 in the name of *WM. Wrigley Jr. Company* was announced on 11 July 2001 (Bulletin 2001/28).

The patent, entitled "*Improved wax-free low moisture chewing gum*" was granted with twenty nine claims, Claim 1 reading as follows:

"1. A wax-free low moisture chewing gum containing from 0.10 wt% to 2 wt% water and comprising from 10 to 90 wt% of a wax-free gum base comprising:

from 10 to 60 wt% of at least one synthetic elastomer;  
at least one natural elastomer in an amount of 30 wt% or less;  
from 5 to 55 wt% of at least one elastomer plasticizer;  
from 4 to 40 wt% filler; and  
from 5 to 40 wt% of at least one fat oil or softener; said chewing gum further comprising from 0.001 to 70 wt% sweetener, and from 0.01 to 10 wt% flavouring agent."

Claims 2 to 29 were, either directly or indirectly, dependent on Claim 1.

II. Notice of opposition was filed by

*Perfetti Van Melle S.p.A.* - Opponent I  
on 10 April 2002

and

*Pfizer Inc.* - Opponent II  
on 11 April 2002.

The opponents requested revocation of the patent in its entirety and based their submissions on the Article 100(a) and 100(c) EPC opposition grounds.

With respect to the opposition grounds according to Article 100(a) EPC the opponents submitted that the claimed subject-matter was not novel and was not based on an inventive step. In support of their submissions they cited, inter alia, the following document:

D1 US-A 5 023 093.

Opponent I also submitted that wax-free chewing gum bases and chewing gums were available to the public by sale well before the effective priority date of the patent. Evidence was provided in order to show that the chewing gum "Happydent" containing the gum base "Every Base TA" was available on the market.

It was admitted by Opponent I that because of its higher water content of 2.3 wt% "Happydent" did not anticipate the claimed chewing gum. However, it was considered obvious to decrease the amount of the moisture-providing glucose syrup in Happydent, thereby

reducing its water content to values falling within Claim 1 of the patent.

III. The decision of the Opposition Division was based on Claims 1 to 13 according to the main request and Claims 1 to 13 according to the auxiliary request, both submitted during the oral proceedings held on 21 January 2004.

Claim 1 of the main request read as follows:

"1. A wax-free low moisture chewing gum containing from 0.10 wt% to 2 wt% water and comprising from 10 to 35 wt% of a wax-free gum base comprising:

from 20 to 60 wt% of at least one synthetic elastomer;

from 0 to 30 wt% of at least one natural elastomer;

from 5 to 55 wt% of at least one elastomer plasticizer;

from 4 to 40 wt% filler; and

from 5 to 40 wt% of at least one fat, oil or softener; said chewing gum further comprising from 0.001 to 70 wt% sweetener, and from 0.01 to 10 wt% flavouring agent."

Claim 1 of the auxiliary request read as follows:

"1. A wax-free low moisture chewing gum containing from 0.10 wt% to 2 wt% water and comprising from 10 to 35 wt% of a wax-free gum base comprising:

from 20 to 60 wt% of at least one synthetic elastomer;  
at least one natural elastomer in an amount of 30 wt% or less;  
from 5 to 55 wt% of at least one elastomer plasticizer;  
from 4 to 40 wt% filler; and  
from 5 to 40 wt% of at least one fat, oil or softener; said chewing gum further comprising from 0.001 to 70 wt% sweetener, and from 0.01 to 10 wt% flavouring agent."

Claim 1 according to the main request differed from the granted Claim 1 in that

- the lower limit of the percentage range of the synthetic elastomer was raised from 10 wt% to 20 wt%,
- the amount of the gum base was limited from 10 to 90 wt% to "10 to 35 wt%" and
- the amount of the natural elastomer was quantified as being "from 0 to 30 wt%".

Claim 1 according to the auxiliary request differed from Claim 1 of the new main request in that for the natural elastomer the amount of "30 wt% or less" according to Claim 1 as granted was reintroduced.

IV. With its interlocutory decision, announced in the oral proceedings and issued in writing on 3 March 2004, the Opposition Division maintained the patent in amended form on the basis of the auxiliary request.

The main request was not allowed because it contravened Article 123(3) EPC. The Opposition Division argued that the feature in Claim 1 "comprising ... at least one natural elastomer in an amount of 0-30 wt%" extended the scope of the patent, contrary to Article 123(3) EPC, because this range included "0 wt%", whereas the definition "at least one natural elastomer in an amount of 30 wt% or less" in Claim 1 as granted excluded "0 wt%". By virtue of this change the natural elastomer, which according to the patent as granted was a mandatory component of the chewing gum, became optional.

In the opinion of the Opposition Division, the amendments made in Claim 1 of the auxiliary request complied with Articles 123(2) and (3) EPC. In particular, the Division did not agree with the objection of the opponents that the range for the natural elastomer "30 wt% or less" (emphasis by the Board) instead of "0 to 30 wt%" as originally disclosed contravened Article 123(2) EPC. In its view "a limitation to a lower or higher value of a claimed ingredient could be allowed by the wording 'more/less than the specifically disclosed value' in case ranges were given" (sic).

The subject-matter according to the auxiliary request was also considered novel over the prior art. With respect to D1 the Opposition Division in particular argued that the chewing gum disclosed there contained from 40 to 90 wt% chewing gum base, whereas the gum base content of the claimed chewing gum was at most 35 wt%.

The Opposition Division did not agree with the opponents that D1 represented the closest prior art for the assessment of an inventive step. It reasoned that D1 sought to provide high gum base chewing gums with an extended flavour sensation in combination with improved shelf life, which was an entirely different problem from that underlying the claimed invention. D1 was therefore not an appropriate starting point for providing low moisture chewing gums having a lower gum base content.

With respect to the alleged prior public use of the chewing gum "Happydent", it was the position of the Opposition Division that the public availability of "Happydent" was not proved "up to the hilt".

V. Notice of appeal was filed by

- Opponent I on 29 April 2004;
- Opponent II on 13 May 2004;
- The patent proprietor on 6 May 2004.

A Statement of the Grounds of Appeal was submitted by Opponent I on 12 July 2004.

With communications pursuant to Article 108 and Rule 65 EPC dated 4 August 2004, Opponent II and the patent proprietor were informed by the EPO that a written statement setting out the grounds of appeal had not been filed by either of them and that it was to be



expected that their appeals would be rejected as inadmissible.

Enclosed with a letter dated 3 August 2004 the patent proprietor submitted a Statement of the Grounds of Appeal and a request for restitutio in integrum under Article 122(1) EPC.

As part of the Statement of the Grounds of appeal, maintenance of the patent on the basis of the main request submitted in the oral proceedings before the Opposition Division was requested. Alternatively, it was requested to remit the case to the Opposition Division for further consideration or to maintain the patent in the form of the auxiliary request allowed by the Opposition Division.

With its request for restitutio in integrum the patent proprietor submitted an Affidavit in order to explain why it let the 13 July deadline for filing the Grounds of Appeal pass by in spite of taking all due care.

In response to a communication of the Board dated 20 January 2005 the patent proprietor submitted, with a letter dated 24 March 2005, further documents in support of its request for restitutio in integrum.

VI. Enclosed with a letter dated 23 May 2007 a set of claims as the basis for a further (second) auxiliary request was submitted by the patent proprietor.

With the letter dated 30 May 2007 the proprietor stated that it withdrew its appeal, the second auxiliary request filed on 23 May 2007 and the conditional

request for oral proceedings. The proprietor furthermore stated that its sole request was that the patent be maintained in the form of the auxiliary request allowed by the Opposition Division.

VII. Taking the above circumstances into account and given the fact that Opponent II did not file a Statement of the Grounds of Appeal, the only appellant is Opponent I, *Perfetti Van Melle S.p.A.*.

VIII. In the oral proceedings before the Board held on 6 June 2007, which the respondent did not attend, and which therefore took place in the presence of the appellant and Opponent II only, the following issues with respect to the auxiliary request allowed by the Opposition Division were discussed:

(a) Amendments - Article 123(2) EPC;

(b) Inventive Step (Article 56 EPC) vis-à-vis D1 as the closest prior art.

IX. The arguments of the appellant - supported by statements of Opponent II - with regard to the above issues were as follows:

(a) The originally disclosed range of from 0 to 30 wt% for the natural elastomer was divided by the examples into two separate disclosures:

- 0 wt% by examples 1 to 30 and 56 to 74;

- the range lying between 12 wt% and 30 wt% by examples 31 to 55.

It would therefore be justified under Article 123(2) EPC to delete the range 12 to 30 wt%. However no example existed filling the gap between more than zero and 12 wt%.

The exclusion of zero from a range of 0 to 30 wt% was therefore a disclaimer which was not allowable under Article 123(2) EPC.

- (b) Contrary to the opinion of the Opposition Division, D1 was an appropriate starting point for the consideration of inventive step.

D1 disclosed a low-calorie chewing gum containing a gum base composition which corresponded to the gum base composition used in the claimed chewing gum. In column 2, lines 42 to 50 and column 3, lines 52 to 56 particular reference was made to an extended flavouring agent and sweetener release while maintaining a soft chew texture, accompanied by a reduction in calories and an improved shelf stability of the chewing gum.

As to the absence of wax, which was nowhere positively disclosed in D1, document D1a (US-A 4 872 884), from which D1 was a continuation in part, had to be taken into account. In that document wax was indicated in Claim 1 as one of the essential components of the chewing gum described therein.

The fact that - in contrast to D1a - its continuation in part D1 did not refer to the presence of wax was sufficient evidence for the

conclusion that the compositions of D1 should be wax-free.

In column 8, lines 16 to 18 of D1 it was disclosed that "*the chewing gum may be anhydrous, substantially anhydrous or prepared to be moisture containing*". Because the term "substantially anhydrous" was to be interpreted as referring to a "small but technically insignificant" water content the above disclosure must be considered to encompass - as one alternative - a low moisture chewing gum in the sense of the invention, ie with a water content lying within the range from 0.1 to 2 wt% as claimed.

The claimed chewing gum differed therefrom only in that the range of the gum base content was lowered from 40 - 90 wt% to 10 - 35 wt%.

Therefore, the problem to be solved was the provision of an alternative chewing gum with a higher calorie content.

It was, however, a matter of routine for a skilled person to reduce the amount of the gum base in favour of an enhanced calorie content. This all the more so as it was disclosed in D1, column 1, lines 28 to 30 that a conventional gum base content amounted to 25 wt% and as no effect was shown by the Respondent caused by the claimed gum base reduction.

- X. In its written submissions the respondent argued as follows with respect to points (a) and (b):

- (a) According to the language of the auxiliary request the presence of a natural elastomer in the claimed chewing gum was not essential. This was particularly clear from examples 1 to 30 and 56 to 82. The reference to at least one natural elastomer in an amount of "30 wt% or less" in Claim 1 of the auxiliary request was therefore to be interpreted identically to the feature of "0 to 30 wt%". Following this interpretation, the appellant's argument of added subject-matter was not valid.
- (b) According to the teaching in D1 (column 3, lines 52 to 56, column 4, lines 6 to 12, column 5, lines 5 and 6, column 8, lines 10 to 13 and Example 2), chewing gums with a high gum base content, preferably in an amount of 60 to 70 wt%, and a good flavour sensation in combination with improved shelf stability should be provided.

In contrast thereto, the claimed invention was concerned with an entirely different problem namely the undesirable increase with time of the brittleness of wax-free high moisture chewing gums, which was found to be controllable by a reduction of the chewing gum's moisture content subject to the proviso that the gum base and its amounts were strictly defined as specified in Claim 1.

D1 was silent as regards the possibility of a gum becoming brittle over time and therefore a skilled person starting from D1 and trying to overcome this problem would not consider the gum of the

claimed invention to be an obvious solution over the gum according to D1.

Furthermore, D1, placing particular emphasis on the requirement of a high gum base proportion, taught away from gum according to the invention in which the maximum amount of the gum base was 35 wt%.

XI. The appellant requested that the decision under appeal be set aside and that the European patent be revoked.

Opponent II supported the appellant's request for reversal of the appealed decision.

XII. The respondent, as its single request, requested that the appeal be dismissed.

### **Reasons for the Decision**

1. The appeal of Opponent I is admissible.
2. Opponent II did not file written submissions setting out the grounds of appeal. Consequently, its appeal is not admissible (Article 108 EPC).
3. The patent proprietor withdrew its appeal with the letter dated 30 May 2007. It is therefore not necessary to decide on its request for restitutio in integrum.
4. The respondent's request, submitted in the letter dated 30 May 2007, to maintain the patent on the basis of the

auxiliary request allowed by the Opposition Division, constitutes the respondent's sole request.

5. *Amendments - Article 123(2) EPC*

According to Claim 1 of this request, the originally disclosed range "0-30 wt%" for the natural elastomer was amended in the granted version to "30 wt% or less".

In the Board's judgment, a component whose amount is specified within a percentage range starting with a value of zero percent is an optional component, ie a component which either may be absent (0 wt%) or may be present in any amount above zero percent but below the upper limit (here: 30 wt%) of the respective range. In the present situation the amendment of the passage "0-30 wt% of at least one natural elastomer" in the application as filed to "of at least one natural elastomer in an amount of 30 wt% or less", excluding thereby the complete absence of natural elastomer, does not therefore contravene the requirements of Article 123(2) EPC.

6. *Novelty*

Novelty was not contested and the Board is also satisfied that the subject-matter according to the single request is novel over the prior art, in particular because of the lower gum base content as compared to the chewing gum described in D1.

7. *Inventive step - Article 56 EPC*

7.1 The subject-matter of the patent in suit

The patent is concerned with low-moisture wax-free chewing gums.

According to several aspects of the invention it is sought to provide a chewing gum having improved storage stability, softness in the absence of wax, good retention of flexibility, flavour and sweetness and having good shelf stability (paragraphs [0011] to [0015] of the patent specification).

According to Claim 1 of the respondent's single request the wax-free chewing gum of the invention is characterised by the following ingredients:

- (a) water: 0.10 to 2 wt%;
- (b) wax-free gum base: 10 to 35 wt%
- (c) sweetener: 0.001 to 70 wt%;
- (d) flavouring agent: 0.01 to 10 wt%.

The gum base (b) comprises the following components:

- (i) synthetic elastomer: 20 to 60 wt%;
- (ii) natural elastomer: 30 wt% or less;
- (iii) elastomer plasticizer: 5 to 55 wt%;
- (iv) filler: 4 to 40 wt%;
- (v) fat/oil/softener: 5 to 40 wt%.



7.2 The closest prior art

The Board considers, in agreement with the appellant and Opponent II, the document D1 representative of the closest prior art.

D1, which is a continuation in part of D1a, discloses a reduced calorie chewing gum comprising:

- a gum base (corresponding to component (b) above):  
40 to 90 wt% - Claim 20;
- sweetener (corresponding to component (c) above):  
normally 0.001 to 60 wt% - column 8, lines 56 to 60;
- flavouring agent (corresponding to component (d) above): embracing the range 0.05 to 4 wt% -  
column 9, lines 17 to 23.

According to column 8, lines 16 to 18 the chewing gum is provided in an anhydrous or substantially anhydrous form or may contain moisture. In this respect the Board agrees with the argument of the appellant (point IX(b)) that the indication that a component is either absent or substantially absent from a composition, means that the component is either not present at all or present in a technically insignificant amount.

The respondent indicates in its patent specification (paragraph [0010]) that moisture containing chewing gums, ie gums with a technically significant water content, contain moisture in excess of 2.5 to 3.0 wt% wt%. The Board therefore considers that a technically

insignificant moisture content in the (substantially) anhydrous gums according to D1 is considerably below 2.5 wt% and lies within the claimed range of from 0.1 to 2 wt%.

The gums according to D1 in their anhydrous/substantially anhydrous variant therefore meet the requirement (a) of the claimed invention.

In the appellant's view (point IX(b)), the fact that D1's mother patent D1a used wax as one of the essential components while D1 was completely silent about the presence or not of wax in the claimed chewing gums justified the conclusion that for the gums of D1 the presence of wax was excluded.

The Board shares the appellant's position, the correctness of which is particularly convincing in the light of a comparison of the gum base compositions according to Claim 19 of D1 and Claim 1 of D1, which specify the presence of respectively "about 6% to about 10% of a fat having a melting point below about 65°C" (D1) and "about 6% to about 10% of a wax having a melting point below about 60°C" (D1a) without any reference to the respective other component, fat or wax, in the other claim definition. This fact, in combination with the corresponding passages in the respective descriptions referring to the same softening function of these ingredients with almost identical words (D1: column 6, lines 35 to 45; D1a: column 4, lines 16 to 38), justifies the conclusion that the chewing gums according to D1 are indeed wax-free in the sense of requirement (b) of Claim 1.

The gum base of the chewing gum described in D1 comprises the following components:

- 0.5 to 30 wt% elastomer which is either synthetic or natural or an elastomer mixture - Claims 1, 2 and column 5, lines 31 to 45, with certain synthetic elastomers being preferred (column 5, lines 39 to 41). This disclosure embraces an elastomer mixture consisting of a synthetic elastomer component in an amount of nearly 30 wt% and minor amounts, ie considerably less than 30 wt%, of a natural elastomer;

Features (i) and (ii) of Claim 1 are therefore fulfilled.

- 5 to 40 wt% of polyvinyl acetate (PVAc) of medium molecular weight of 35,000 to 55,000, and 4.5 to 15 wt% acetylated monoglyceride, both components acting as elastomer plasticizers - Claim 1 in connection with column 5, line 50 to column 6, line 19 - in accordance with feature (iii) of the claimed chewing gum;
- filler in an amount of 15 to 40 wt% in accordance with feature (iv) - Claim 1 in conjunction with column 7, lines 44 to 47;
- 6 to 20 wt% fat/oil in accordance with feature (v) - Claim 1 in connection with column 6, lines 35 to 50.

D1 points in column 2, lines 39 to 53 to the release of flavouring agent and sweetener over a longer period of

time without formation of a rubbery or tight chew.  
Furthermore the soft chew texture is emphasized.

### 7.3 Problem and solution

The claimed chewing gum therefore differs from the gum described in D1 only by a reduced gum base content of from 10 to 35 wt%.

In the Board's judgment, the problem to be solved vis-à-vis the disclosure of D1 can only be seen in the provision of alternative chewing gums having a "normal" calorie content, ie not a chewing gum whose calorie content is "reduced" as desired by D1 (cf eg D1: column 2, lines 36 to 38).

In the absence of any evidence in support of the allegation that the currently claimed gum base recipe is essential for alleviating the brittleness defect of wax-free chewing gums, the respondent's argument (point IX(b)) that D1 was not an appropriate starting point for the assessment of inventive step, because it did not specifically address the unsatisfactory development of brittleness in low moisture chewing gums, is not convincing.

Furthermore, it was not shown that the reduced gum base content vis-à-vis D1 resulted in any non-predictable technical advantage, which is fully in line with the fact that the granted version of the patent in suit also encompassed gum base contents of 40 to 90 wt%.

#### 7.4 Obviousness

The claimed solution to the problem posed, ie a reduction of the gum base content, is however obvious from D1 itself. In column 8, lines 19 to 23 of D1 it is stated: *"The unique combination of components used to prepare the gum base of this invention enables the gum base to be employed at higher than normal levels to achieve a reduced calorie product by concurrent reduction in the amount of sweetener employed."*

This passage provides the following information:

- the gum base content is higher than conventional;
- this enhancement makes a reduction in calories possible.

A skilled person being aware of this link between the gum base content and the calories of the gum and intending to "return" to a conventional calorie content would therefore as a matter of course simply reduce the gum base content.

The chewing gum according to Claim 1 is therefore obvious in the light of the disclosure given in D1 and the respondent's sole request is not allowable.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar

The Chairman

G. Röhn

P. Kitzmantel