DECISION
of 1 April 2003

Case Number: T 0923/00 - 3.3.6
Application Number: 92306005.7
Publication Number: 0522766
IPC: C11D 3/37

Language of the proceedings: EN

Title of invention:
Detergent compositions in tablet form

Patentee:
UNILEVER PLC, et al

Opponent:
Henkel KGaA Patente (TTP)
The Procter & Gamble Company

Headword:
Detergent tablet/UNILEVER

Relevant legal provisions:
EPC Art. 123(2), 88(3)(4), 83, 54(2)(3)

Keyword:
"Priority (yes) - same invention (yes) - all features of the claimed invention disclosed in the priority document"
"Added subject-matter (no) - all features of the claimed invention disclosed in the application as filed"
"Sufficiency (yes) - interpretation of terms in the claims on the basis of definitions and explanations given in the description"
"Novelty (yes) - no clear and unambiguous disclosure in the prior art"

Decisions cited:
G 0002/98, T 0267/95

Catchword:
DECISION
of the Technical Board of Appeal 3.3.6
of 1 April 2003

Appellants: UNILEVER PLC et al
(Proprietors of the patent) Unilever House
Blackfriars
London EC4P 4BQ (GB)

Representative: Ford, Michael Frederick
MEWBURN ELLIS
York House
23 Kingsway
London WC2B 6HP (GB)

Respondents: Henkel KGaA
Patente (TTP)
Henkelstrasse 67
D-40191 Düsseldorf (DE)

Representative: -

(Opponent II) The Procter & Gamble Company
One Procter & Gamble Plaza
Cincinnati, Ohio 45202 (US)

Representative: Lawrence, Peter Robin Broughton
GILL JENNINGS & EVERY
Broadgate House
7 Eldon Street
London EC2M 7LH (GB)

Decision under appeal: Decision of the Opposition Division of the European Patent Office posted 19 July 2000 revoking European patent No. 0 522 766 pursuant to Article 102(1) EPC.

Composition of the Board:
Chairman: P. Krasa
Members: G. Dischinger-Höppler
M. B. Tardo-Dino
Summary of Facts and Submission

I. This appeal is from the decision of the Opposition Division to revoke European patent No. 0 522 766 for lack of novelty. The decision was based on the granted set of 17 claims as a main request and on amended sets of claims according to nine auxiliary requests, the only independent claim of the main requests reading:

"1. A tablet of compacted particulate detergent composition comprising a detergent-active compound, a detergency builder, and optionally other detergent ingredients, characterised in that the tablet or a discrete region thereof, consists essentially of a matrix of particles no more than 5 wt% of which are smaller than < 200 \( \mu \text{m} \), the particles of detergent-active compound and detergent builder and optionally the particles of ingredients of the detergent base powder being individually coated with a binder material which acts as a physical disintegrant capable, when the tablet is immersed in water, of disrupting the structure of the tablet; but excluding a tablet wherein at least 90 wt% of the particles of the matrix have a particle size within a range having upper and lower limits differing from each other by no more than 700 \( \mu \text{m} \), while not more than 5 wt% are smaller than the lower limit and not more than 5 wt% are larger than the upper limit."

In the auxiliary requests the subject-matter of Claim 1 was further restricted.

II. Two notices of oppositions were filed, based on extension of the subject-matter beyond the content of the application as filed (Article 100(c) and 123(2))
EPC), insufficiency of disclosure (Article 100(b) and 83 EPC) and lack of novelty and inventive step (Article 100(a), 54(2)(3) and 56 EPC), and they cited, inter alia, the following documents:

P3: EP-A-0 466 484, and


III. In its decision, the Opposition Division found that the claims of all requests met the requirements of Article 123(2) EPC, that the invention was sufficiently disclosed in accordance with Article 83 EPC, that the subject-matter claimed in each of the requests was novel over the disclosure of the cited prior art except for document P3 which anticipated the claimed subject-matter under Article 54(3) EPC. In particular, it was held that the statement in Claim 1 of each request "but excluding a tablet ... than the upper limit", whilst being intended to exclude the tablets disclosed in document P3, did not exclude those tablets which according to document P3 optionally contained within the matrix the much larger "visually contrasting particles".

IV. An appeal was filed against this decision. Subsequent to the Board's communication of 18 October 2002, the Appellants (Proprietors) withdrew their third, fourth and fifth auxiliary requests and renumbered auxiliary requests 6 to 9 as auxiliary requests 3 to 6.

V. During the oral proceedings held before the Board of Appeal on 1 April 2003, the Respondent II (Opponent II) did not rely on data obtained by computer simulation in.../...
VI. The Appellants, orally and in writing, submitted the following arguments:

- The application as filed which was entitled to the priority it claimed, did not propose a particle size distribution having two peaks (bimodal distribution) as an essential feature as was suggested by the Respondents. The amendments made to the claims before grant were nothing more than a clarification or limitation of the claimed subject-matter permissible under Article 123(2) EPC with the consequence that the amended claims were also entitled to the claimed priority.

- Alternatively, the amendments could be justified as a disclaimer based on document P3.

- Document P3 did not anticipate the claimed subject-matter since it did not contain the teaching that if visually contrasting particles were optionally present, those particles would belong to the matrix of particles as defined in Claim 1 and in the description of the patent in suit, or that the composition would inevitably fall within the size range of Claim 1.

- The claimed subject-matter was also novel in view of document PF which was ambiguous in relation to the particle size distribution and to any presence of binder/disintegrant as a coating on the surface of the particles.
VII. The arguments submitted by the Respondents can be summarised as follows:

- According to the application as filed, the particle size distribution was "bimodal" with a gap between the modes of not more than 700 nm. The claims as granted instead required a monomodal distribution over a range of particle size of more than 700 nm with not more than 5% both below the lower limit and above the upper limit of the range.

- This amendment was not based on the application as filed and, therefore, open to objection under Article 123(2) EPC. Since the priority document corresponded to the application as filed, the subject-matter as defined in the patent in suit was different from that defined in the priority document and therefore was not entitled to the priority claimed. Reference in this respect was made to opinion G 2/88 of the Enlarged Board of Appeal (OJ EPO 2001, 413).

- Dependent on the definition of the terms "binder/disintegrant" and "individually coated", the patent in suit was open to objection under Article 83 EPC.

- The claimed subject-matter was anticipated by the disclosure of documents P3 and PF

- since the matrix of the tablets according to Claim 1 of the patent in suit could additionally contain much larger visually contrasting particles and did not, therefore, exclude the
tablets of document P3 wherein the matrix contained at least 90 wt% of particles having a size within a range extending over not more than 700 FM and

- since it had been admitted by the Appellants in another opposition case that the particle size distribution in document PF was within the scope of the patent in suit by stating that it was larger than in document P3. Moreover, document PF further disclosed the presence of binder/integrant on the surface of the detergent particles.

VIII. The Appellants requested that the decision under appeal be set aside and that the patent be maintained, on the basis of the main request or alternatively on the basis of one of the auxiliary requests 1, 2 or 6 to 9 as attached to the decision under appeal, the last four auxiliary requests renumbered to 3 to 6 in accordance with the letter dated 30 January 2003.

The Respondents requested that the appeal be dismissed.

Reasons for the Decision

Main Request

1. Amendments and priority

Respondent II raised objections under Article 123(2) EPC and was of the opinion that the patent as granted (main request) was not entitled to the claimed priority since the definition of the invention as claimed in the
The patent in suit was significantly different to that contained in the priority document (see Article 88(3) EPC).

1.1 Amendments made to a European patent are only permissible if they do not "contain subject-matter which extends beyond the content of the application as filed" in accordance with Article 123(2) EPC.

Further, the right to claim priority from a previous first application is to be acknowledged if those skilled in the art, using their general technical knowledge, can derive the claimed subject-matter directly and unambiguously from the previous application as a whole (Article 88(4) EPC and G 2/98, Reasons No. 9).

In the present case, the application as filed and the priority document are in essence identical. This was not disputed by the parties. Therefore, any conclusion in favour or against allowability of the amendments under Article 123(2) EPC would also apply in favour of or against entitlement to the claimed priority. The issues concerning Article 123(2) EPC and the right to claim priority are, therefore, dealt with jointly in the following.

1.2 Three amendments have been made to Claim 1 of the main request, i.e. to Claim 1 as granted, as compared with Claim 1 of the application as filed or of the priority document (hereinafter referred to as the "original documents" if mentioned together), namely

(a) the feature that the "... matrix of particles" is "substantially free of particles < 200 \( \mu m \)" has
been quantified so that the "...no more than 5 wt%" of the particles "are smaller than < 200 μm";

(b) the term "binder/disintegrant" has been amended into "binder material which acts as a physical disintegrant"; and

(c) the original term "with the proviso that substantially all of the particles of the matrix do not have a particle size within a range having upper and lower limits differing from each other by not more than 700 μm" has been replaced by "but excluding a tablet wherein at least 90 wt% of the matrix have a particle size within a range having upper and lower limits differing from each other by not more than 700 μm, while not more than 5 wt% are smaller than the lower limit and not more than 5 wt% are larger than the upper limit".

No objections have been raised during appeal proceedings in respect of amendments (a) and (b) which can be directly derived from the original disclosure on page 4, last paragraph (amendment a) and from page 7, second full paragraph (amendment b) in both original documents. The amendments, therefore, fulfill the requirements of Article 123(2) EPC and are entitled to the claimed priority.

Concerning amendment (c), it is uncontested that the particle size distribution is an essential technical feature of the invention. Therefore, the statement in Claim 1 intended to indicate which tablets, defined via a particular particle size distribution, are excluded
from its scope is part of this essential technical feature.

This feature ("excluding statement") is not explicitly disclosed in the original documents. Therefore, it has to be determined whether it can be based on an implicit disclosure. This has to be done on the basis of the overall disclosure of the whole specification.

1.3 The particle size distribution as the crucial point at stake is addressed in the following passages of the application as filed (and corresponding passages in the priority document):

1.3.1 Page 3, where document P3 is referred to in lines 6 to 10 as disclosing detergent tablets of compacted particles having a narrow size cut and improved disintegration properties in the wash. The following paragraph (page 3, lines 12 to 19) goes on to state that "It has now been found" that tablets consisting essentially of a matrix of compacted granules having a wider particle size range than those of document P3 also have improved properties, provided that the particles are coated with binder/disintegrant.

1.3.2 Pages 3 and 4, where the invention is defined to provide a tablet as set out in original Claim 1 including the "proviso" that substantially all of the matrix particles do not have a particle size within a range extending over up to 700 \( \text{Fm} \) (page 3, line 27 to page 4, line 7 and Claim 1).

1.3.3 Pages 21 to 25 disclosing the invention by way of examples in which the tablets are formed from a granular detergent composition having a monomodal
particle size distribution, i.e. with no gap between two modes, within a range of from 250 \( \text{Fm} \) to 1400 \( \text{Fm} \), as obtained by appropriate sieving of a product having a larger size range (page 22, lines 13 to 29).

1.3.4 Page 4, last paragraph, stating that the composition consists substantially wholly of particles within the size range of 200 to 2000 \( \text{Fm} \), preferably 250 to 1400 \( \text{Fm} \), and is substantially free of both larger and smaller particles (lines 29 to 32). Immediately thereafter a definition of the term "\textit{substantially}" is given, namely: "By substantially is meant that not more than 5 wt\% of particles should be larger than the upper limit, and not more than 5 wt\% should be smaller than the lower limit" (lines 33 to 35).

1.4 Respondent II contended that the original wording ("proviso"), according to which substantially all of the particles do not have a size within a range extending over not more than 700 \( \text{Fm} \), called for a "bimodal" particle size distribution in the claimed tablets with a gap of up to 700 \( \text{Fm} \) between the modes. A monomodal distribution as given in the examples was inconsistent with that. Instead, the bimodal distribution was "described anywhere else" in the original documents since nothing in those documents suggested that the bimodal distribution was wrong or that the amendment made in Claim 1 as granted was the only possible correction of that inconsistency. The bimodal distribution was, therefore, an essential feature in the original documents which entirely met the requirement in the original application (page 3, lines 12 to 19) that the matrix should have a wider particle size distribution than disclosed in document P3. An entirely different feature had been
introduced by the amendment instead, namely that the
distribution was monomodal provided that its range was
broader than that of the distribution in document P3.
Consequently, amended Claim 1 not only violated
Article 123(2) EPC but also was not entitled to the
claimed priority in accordance with decision G 2/88 of
the Enlarged Board of Appeal.

1.5 The Board agrees that the strict wording of the
"proviso" includes the "bimodal" distribution as
suggested by the Respondent. This is, however, not the
only possible interpretation. None of the terms,
"bimodal" or "monomodal", is mentioned anywhere in the
original documents, nor the presence of two modes, let
alone any distribution of the particles in terms of
quantity between such modes. Therefore, the wording of
Claim 1 in the original version does not exclude a
monomodal particle size distribution with 100% of the
particles lying within one single mode, but outside a
range extending over up to 700 μm or, in other words
with all particles lying within a range extending over
more than 700 μm, and the particle size distribution
being consequently simply wider than that disclosed in
document P3.

This interpretation is in line with the general
description and the examples of the original documents
as is apparent from points 1.3.1 to 1.3.3 above.

Therefore, the overall disclosure of the original
documents was consistent with both embodiments, a
monomodal distribution as disclosed in the examples and
a bimodal distribution as also covered by the wording
of original Claim 1. This was eventually admitted by
Respondent II. Therefore, neither one nor the other can
be identified as the only essential embodiment of the invention.

1.6 Consequently, the Board holds that the application as filed includes both embodiments, a monomodal and a bimodal particle size distribution and that the amendment made is merely an admissible limitation of the claimed subject-matter to cover only the monomodal distribution which entirely meets the conditions set out in the opinion G 2/88 of the Enlarged Board of Appeal (see 1.1 above).

1.7 Respondent II further argued that it was not permissible under Article 123(2) EPC to quantify, on the basis of the definition of the term "substantially" given on page 4, last paragraph (see point 1.3.4), the amounts of particles lying within a size range of up to 700 $\mu$m in Claim 1 so as to cover only those tablets wherein less than 90 wt% of the matrix particles have a particle size within a range extending over up to 700 $\mu$m. The definition on page 4 only referred back to the ranges mentioned in the preceding sentence (200 to 2000 $\mu$m, preferably 250 to 1400 $\mu$m). There was no reason to assume that this same definition should apply to the term "substantially all" in the "proviso" of original Claim 1 to indicate that tablets having at least 90 wt% of the matrix particles in a range extending over up to 700 $\mu$m were excluded.

1.8 The term "substantially" in relation with particle size is originally disclosed for the following different situations: (a) for the amount of fines (particles below 200 $\mu$m) which are substantially absent in the matrix (page 3, last paragraph and page 4, first and second full paragraphs), (b) for the amount of matrix
particles (substantially all) not lying within a range limited to 700 Fm (page 4, first paragraph), (c) for the amount of matrix particles lying within a range of 200 to 2000 Fm, preferably 250 to 1400 Fm (substantially wholly) and (d) for the amount of larger and smaller particles (substantially free of) in the matrix (page 4, last two paragraphs).

Further, the term "substantially" is defined only once in the original documents, namely in that second sentence of the last paragraph on page 4 which allows the presence of up to 5 wt% of both, particles being larger than the upper limit and smaller than the lower limit of the size range of 200 to 2000 Fm, preferably 250 to 1400 Fm. It follows necessarily that the amount of particles within the range must be at least 90 wt% and that the amount of fines can be up to 5 wt%. Therefore, the definition applies undisputably to situations (a), (c) and (d).

It applies in the Board's opinion also to situation (b) for the simple reason that, if in this particular case something different should be understood by the same term, it would have been mentioned in the original documents.

Apart from that, the original documents refer to document P3 as disclosing embodiments having a narrower particle size distribution than in accordance with the claimed subject-matter (page 3, first and second full paragraphs). Therefore, the corresponding information given in document P3 is considered as incorporated by that reference in the original documents (see e.g. decision T 267/95, not published in the OJ EPO, reasons No. 2). The relevant information in document P3 is
given on page 3, lines 18 to 28, where a size distribution is described of the matrix-forming particles which extends over not more than 700 Fm with not more than up to 5 wt% of particles being both larger and smaller than the upper and lower limit of that size range, implicitly requiring that at least 90 wt% of the matrix particles have a size within these limits. This information corresponds exactly to the disputed amendment (c) (point 1.2 above) which can, therefore, be accepted as a disclaimer having an implicit basis in the application as filed and in the priority document.

1.9 The Board, therefore concludes that the amendments made to Claim 1 meet the requirements of Article 123(2) EPC and that its subject-matter is entitled to the priority claimed.

2. Insufficiency of disclosure

The objection was raised in case the Appellants attributed a different definition to the terms

- "binder/distintegrant" and

- the particles being "individually coated" by the binder/distintegrant.

than given by the Respondents. In their opinion, a binder/distintegrant was any material functioning as a binder keeping the particles together in the tablet and as a disintegrant enabling the tablet to break up when immersed in water. Concerning the term "individually coated", Respondent I argued that since the term "coat" was synonymous with "envelop" (page 4, lines 11 to 13
of the patent) it was also synonymous with "totally coated". The only method indicated for possibly achieving such a coating, by spraying the binder/disintegrant onto the particles in solution or dispersion form (page 4, line 20) was, however, insufficient for that purpose. Respondent II argued that it was evident that a complete coating could not be achieved by this method and that the correct interpretation of the term "individually coated" simply meant that there was some contact between the binder/disintegrant and the particles.

2.1 The Appellants did not disagree with the interpretation of the term "binder/disintegrant", nor does the Board, since this is fully in line with the respective definition given in the patent in suit (page 3, lines 55 to 58 and page 4, lines 4 to 6).

2.2 Concerning the second term, the respective information in the patent in suit makes clear that simple mixing of the binder/disintegrant with the particles would not be sufficient for achieving a coating in the sense of the patent in suit. Only one method is mentioned as suitable for that purpose, the application of the binder/disintegrant onto the particles by spraying in diluted form (page 4, lines 11 to 13 and 20). The Board, therefore, concludes that for the purpose of the patent in suit the terms "coat" or "envelop" do not only mean "some contact" as argued by Respondent II since this would certainly also result from a simple mixing, nor does it necessarily mean completely enveloped as suggested by Respondent I. Instead the term must be interpreted as having the surface of the particles covered with the binder/detergent material to an extent which is achievable by spraying but not
achievable by simple mixing.

The Board concludes, therefore, that both terms are sufficiently clear and do not give rise to an objection that the invention could not be carried out by a person skilled in the art (Article 83 EPC).

3. Novelty

The Respondents contested novelty of the subject-matter of Claim 1 in view of documents P3 and PF.

3.1 Concerning document P3, the objection was only based on the question of whether or not the tablets in this document were actually excluded from the scope of Claim 1 of the patent in suit via the "excluding statement". The other features of Claim 1 are in essence disclosed in document P3. This was not disputed by the parties.

The objection was based on the fact that in both, the patent in suit and document P3 the tablet can further contain a minor proportion of much larger, visually contrasting particles not within the size range of the matrix (document P3, page 3, lines 9 to 14; patent in suit, page 3, lines 42 to 47).

3.1.1 According to the Respondents, these larger particles had to be attributed a different meaning in document P3 and in the patent in suit. They argued that in document P3 the visually contrasting particles did not belong to the matrix since they were larger than the matrix particles for which an upper size limit was given within the narrow size range. In contrast, the matrix particles in the claimed tablet were not limited
to a particular maximum size. Therefore, the larger, visually contrasting particles added to the matrix particles and the subject-matter of Claim 1 included a tablet as in document P3 with at least 90 wt% of the matrix particles having a size within a range extending over 700 Fm.

3.1.2 However, whilst being formally unlimited to an upper particle size value in Claim 1, it is self-evident for those skilled in the art and apparent from the description of the patent in suit (page 1, lines 15 to 42 and page 3, lines 6 to 12) that in order to be useful as a detergent tablet, the size of the matrix particles must in practice be limited.

Further, the corresponding paragraphs in document P3 and in the patent in suit relating to the visually contrasting particles are identical and both indicate that those particles are not within the size range of the matrix (see 3.1 above). The Board does not, therefore, see any reason to attribute a meaning to these paragraphs, in document P3 as well as in the patent in suit, other than that the visually contrasting particles, being much larger than the matrix particles, do not belong to the latter, no matter what size exactly the matrix particles have.

For the sake of completeness, it should be noted that even if one accepted that according to the patent in suit the contrasting particles were part of the matrix, it was evident that, being much larger, they would add to those particles having a size above the upper limit of a range of up to 700 Fm, thus reducing the percentage of particles having a size within that range and broadening the particle size distribution as
3.1.3 The Board, therefore concludes that the subject-matter of Claim 1 is novel over document P3 under Article 54(3) EPC (see also 1.9 above).

3.2 Document PF is a scientific article relating to the tableting of detergents. It has been found that a good tableting formula consists of a uniform granulation of agglomerated particles held lightly together by some binder (page 622, lines 3 to 6). A typical screen analysis of a granulation having good flow properties, requiring little pressure for tableting and having good disintegration properties is given (page 622, lines 9 to 10, 11 to 13, 21 to 22 and table).

3.2.1 The Respondents argued that during prosecution of the case of document P3 in opposition, the Appellants themselves had stated that the particle size distribution in document PF was broader than in document P3. If - as the Appellants seemed to claim - the particle size distribution in the tablets of the patent in suit was just broader than that of document P3, those tablets were anticipated by the teaching of document PF.

3.2.2 However, in the Board's opinion, the Respondents cannot only rely on a statement of the Appellant in a former opposition case. Such statement may have been wrong or inappropriate. This is the case here as will be seen in the following. For the assessment of novelty, the actual teaching of a prior art document has to be investigated on an objective basis. The most objective basis for the particle size distribution in document PF is the screen analysis of the granulation shown in the
The term "mesh" normally indicates the number of openings in the sieve per inch. It is not a unit which can be unambiguously converted into micrometers since, as the Respondents did not contest, there exist several mesh standards and the outcome of a conversion into micrometers is dependent on the standard used. However, document PF is silent on the standard it uses.

On the other hand, it is true that using the most common ASTM mesh standard gives 95% of the particles between 250 and 2380 Fm (those passing sieves with between 60 and 8 mesh). However, the size distribution is not clear for the 28.5% of particles which pass the 8 mesh sieve but are retained on the 16 mesh sieve, thus having a particle size of between 1190 and 2380 Fm. The same applies to the 26% of particles passing a 30 mesh sieve but being retained on a 60 mesh sieve, which have a particle size between 250 and 595 Fm.
Therefore, as submitted by the Appellant, the table does not disclose clearly and unambiguously either a particle size distribution broader than in document P3 or a particle size distribution narrower than in document P3.

3.2.3 The Respondents argued that further indications of a broad particle size distribution in document PF were the wide ranges between sieve sizes which have been used and the fact that narrow size distributions could not be obtained by agglomeration. Consequently, any skilled reader of document PF would know that the particle size distribution in this document had to be a wide one.

3.2.4 This was contested by the Appellant and the Respondents did not provide evidence supporting their implicit argument that a particle size distribution as narrow as in document P3 could not be obtained by granulation. After all, document P3 teaches that with some compositions granulations satisfying the postulated narrow particle size distribution can be obtained without sieving or other further treatment (page 3, lines 54 to 56). Moreover, the Board cannot see any reason for the authors of document PF to give a more detailed analysis of the particle size distribution by using narrower ranges between the sieve sizes since for their purposes the analysis was obviously good enough.

3.2.5 Another feature of the claimed subject-matter which cannot be clearly and unambiguously derived from document PF is the distribution of the binder within the composition. The binder is merely mentioned to be present to hold together the agglomerates (page 622, lines 5 to 6). Neither mixing the binder with these
agglomerates or particles nor spraying it onto them in
diluted form is mentioned. Therefore, whilst accepting
the Respondents' argument that the binder may have the
same physical function in water as in the patent in
suit, which causes disruption of the particles, the
binder of document PF is not disclosed as coating the
particles in the sense of the patent in suit (see 2.2
above).

3.3 Consequently, the subject-matter of Claim 1 is not
found to be anticipated by the disclosure of document
PF, thus fulfilling the requirements of Article 54(2)
EPC.

4. It follows from the above that the claims according to
the main request are not open to the objections on
which the Respondents rely. Therefore, there is no need
to deal with the claims of the auxiliary requests.

5. In the present case, the Opposition Division has not
yet considered the issue of inventive step which is an
essential question regarding patentability of the
claimed subject-matter. Therefore, the Board considers
it as justified to remit the case to the first instance
for further prosecution on the basis of the claims of
the main request, thereby granting the respective
request of the Appellant.
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order for further prosecution on the basis of the claims of the main request.

The Registrar: The Chairman:

G. Rauh P. Krasa