Datasheet for the decision of 3 March 2009

Case Number: T 0695/05 - 3.3.02
Application Number: 92915753.5
Publication Number: 0594747
IPC: A21D 6/00
Language of the proceedings: EN
Title of invention:
Yeast-leavened refrigerated dough products
Patentee:
GENERAL MILLS MARKETING, INC.
Opponent:
Société des Produits Nestlé S.A.
Headword:
Yeast-leavened refrigerated doughs/GENERAL MILLS MARKETING, INC.
Relevant legal provisions:
EPC Art. 83, 56
Relevant legal provisions (EPC 1973):
-
Keyword:
"Main request meets the requirements of sufficiency of disclosure and of inventive step"
Decisions cited:
-
Catchword:
-
Case Number: T 0695/05 - 3.3.02

DECISION
of the Technical Board of Appeal 3.3.02
of 3 March 2009

Appellant: Société des Produits Nestlé S.A.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
1 April 2005 concerning maintenance of European
patent No. 0594747 in amended form.

Composition of the Board:

Chairman: U. Oswald
Members: M. C. Ortega Plaza
P. Mühlens
Summary of Facts and Submissions

I. European patent No. 0594 747, which was filed as application number 92 915 753.5, based on international application WO 93/01724, was granted on the basis of eleven claims. Claims 1 and 6 as granted were two independent method claims.

II. Following the decision T 664/00 (date of decision 28 November 2002, same board in another composition) underlying a first appeal, the present case was further prosecuted by the opposition division. In the decision T 664/00 the board concluded that the set of claims of the first auxiliary request filed at the oral proceedings who took place on 28 November 2002 was allowable in respect of the formal aspects and that the subject-matter claimed was novel (see point 6.3.2 of said decision). The board of appeal in case T 664/00 did not decide about sufficiency of disclosure (Article 83 EPC) or inventive step (Article 56 EPC) of the subject-matter claimed.

Claim 1 of the set of claims serving as basis for the remittal in T 644/00 reads as follows:

"1. A method of producing a dough composition, capable of being stored at refrigeration temperatures ranging between 0°C and 12°C, said method comprising the steps of mixing yeast, water and flour, the method being such that the yeast will remain substantially inactive at refrigeration temperatures, wherein the dough is capable of being stored for 90 days at refrigeration temperatures without the pressure in a spirally wound
container rising above 40 psi, wherein the yeast is not NCIMB 40329, 40330, 40331 or 40332."

Independent claim 7 read as follows:

"7. A method of producing a dough composition capable of being stored at refrigeration temperatures, said method comprising the steps of mixing water, flour, and yeast, packaging the dough in a container, proofing the dough in the container and storing the dough within the container, at refrigeration temperatures ranging between 0°C and 12°C, the specific strain of the yeast and the total dough composition being chosen so that the total amount of sugar or sugars within the dough to be fermented by the yeast is limited after packaging, thus limiting the maximum volume of CO₂ which the yeast can generate after packaging to no more than 100ml of CO₂ per 100g of dough at 32°C."

III. The following documents cited during the proceedings are relevant for the present decision:

(2) Declaration of Mr P. Niederberger dated 11 February 1997

(3) JP 2 093 384 (№60-38 362/1985, Kanegafuchi), in its English translation

(4) EP-A-0 442 575

(11) US 2 478 618

(28) Extract from the book "Frozen and Refrigerated Doughs and Batters, K. Kulp, K. Lorenz, J. Brümmer,
IV. The appeal lies from an interlocutory decision of the opposition division maintaining the patent in amended form (Articles 102(3) and 106(3) EPC 1973), on the basis of the main request filed with the letter of 15 December 2004. This request was a typography version of the first auxiliary request filed during the oral proceedings of 28 November 2002 in appeal case T 664/00.

V. The opposition division considered that the requirements of sufficiency of disclosure (Article 83 EPC) were met since the contested patent provided sufficient information for reproducing the claimed methods without undue burden. As regards the process claimed in claim 7, the opposition division stated that the skilled person would not have any difficulty in obtaining flours with a low content of damaged starch. As regards the method claimed in claim 1, the opposition division investigated also whether the requirements of sufficiency of disclosure were met. Insufficiency of disclosure was initially cited as ground of opposition for the subject-matter of claim 7, but it was admissible to investigate also amended claim 1. In particular, the functional feature appearing in amended claim 1 was analysed. According to the opposition division's opinion, the skilled person would be in a position to carry out the corresponding test. Among the documents cited was document (29) which, in the opposition division's view, presented the
measurement of pressure in dough containers as a routine measurement. Additionally, the skilled person would not have any difficulty in adequately filling a commonly known container. The post-published book document (28) was cited in this context. The opposition division also stated that the patent in suit mentioned that the yeast strains 1st4 to 8 were available to the public from the YGSC at the University of California, Berkeley.

As regards inventive step, the opposition division considered that the problem underlying the "invention" was the provision of methods that allow yeast-leavened dough to be stored at refrigeration temperatures. The problem was solved by the method claims 1 and 7, and the solution concerned the decrease of the amount of carbon dioxide produced by the yeasts after packaging.

Depending on the validity of the first priority date as date of filing, document (4) was to be taken into account as prior art, or not. In case of a valid priority date of 18 July 1991, then the closest prior art was document (3). However, in any case the claimed subject-matter involved an inventive step.

VI. The opponent (appellant) filed an appeal against said decision and filed grounds of appeal.

VII. The respondent (patent proprietor) filed with its letter dated 22 December 2005 counterarguments thereto and additional experimental data.

VIII. A communication expressing the preliminary opinion of the board was sent to the parties on 22 February 2008.
IX. The respondent filed with the letter dated 7 August 2008 a response to the board's communication. It also filed five sets of claims as auxiliary requests 1 to 5.

X. The appellant filed comments to the auxiliary requests with a letter dated 3 February 2009.

XI. With a letter sent by fax the 23 February 2009 the respondent requested that the submissions filed by the appellant only one month before the oral proceedings be considered not admissible.

XII. Oral proceedings took place on 3 March 2009.

During the oral proceedings the respondent filed a new main request in order to replace the previous main request. The only difference with the previous main request was an obvious correction in claim 2, namely the term "low" was introduced in the expression "a low temperature sensitive yeast".

XIII. The appellant's arguments may be summarised as follows:

The appellant did not object either to the admissibility or to the allowability of the amended main request filed at the oral proceedings (only amendment in claim 2).

The appellant maintained the arguments filed in writing in relation to the interpretation of claim 1 and to the requirements of clarity (Article 84 EPC). In particular, the appellant contended that the board only decided in
case T 664/00 in relation to the formal aspect of Article 84 EPC, i.e. about support in the description, and that it left undecided the assessment of clarity. Thus, clarity was an issue to be discussed and, in the appellant's opinion, claim 1 lacked clarity. Additionally, the functional feature concerning the storage during 90 days was a different feature from that defining the yeast as "substantially inactive at refrigeration temperatures".

Moreover, according to the submissions made with the grounds of appeal, the appellant argued that claim 1 contained a functional feature relating to a result-to-be-achieved and, hence, claim 1 encompassed the three embodiments disclosed in the specification: 1) use of cold rehydrated yeast, 2) use of the concept of substrate limitation and 3) use of lts strains. Moreover, if the functional condition at the end of the claim was a result of the claimed method then it was an inherent property of the dough, but it could also be interpreted as reflecting another feature of the claimed method. In this case, it was unclear how to achieve it.

The appellant also argued that the "spirally wound container" was not identified and thus, it could be one having a valve.

As regards sufficiency of disclosure the appellant argued that if it was considered that the subject-matter of claim 1 of the main request concerned two embodiments, then there was no single example of "pure" lts strain shown to be successful in the patent in suit, since all the strains attaining the condition were MAL-
(i.e. mutants of yeast strains, which cannot degrade maltose). In this context it cited figure 11, where a plateau was shown for the total amount of CO₂ evolved, after fermentable sugars had been consumed. The appellant further argued, that, in contrast to the results depicted in figure 1, figures 23 and 24 did not show any plateau (it mentioned in particular lts6 strain) and thus the condition at the end of the claim was not fulfilled by the lts strains.

As regards Article 56 the appellant also referred to its written submissions and argued that document (3) was the closest prior art since the method of dough preparation included the use of a low temperature sensitive yeast with reduced activity at low temperatures and thus, document (3) had the most common features with the method claimed in claim 1. The problem to be solved in view of document (3) was to prepare a dough that has a longer storage capacity (about 90 days) and does not produce CO₂ beyond certain values. The respondent further stressed that document (3) was the closest prior art for the lts yeast embodiment.

The appellant referred to the declaration of Mr Niederberger (document (2)) in order to support its argument that it was well under the skill of ordinary artisan to produce strains capable of achieving that function.

Moreover, the respondent submitted that the definition of the problem and its solution should not be defined coincidentally since this was not allowed by the EPC.
Additionally, the respondent argued that the burden of proof that the problem is solved in the whole scope claimed was upon the patent proprietor. It pointed again to the lts6 yeast and figures 23 and 24. Moreover, it was evident that lts yeast produces less CO₂ at low temperatures and, hence, the solution to the problem was obvious.

The appellant also mentioned figure 21 (comparison with fermipan) and reminded of the differences between "high" low temperature sensitive yeast and "moderate" low temperature sensitive yeast.

As regards claim 7 the appellant relied upon its written submissions with its grounds of appeal. In particular, the appellant was of the opinion that the concept of substrate limitation did not "enjoy priority of the first document the priority of which is claimed, so that document (4) is a document according to Article 54(2) EPC and may be taken into consideration for assessing inventive step". Additionally, the appellant argued that document (4) related to the concept of substrate limitation and thus, the subject-matter claimed in claim 7 was obvious since the features alleged as novelty-bringing features did not contribute to the solution of the problem.

XIV. The respondent's arguments may be summarised as follows:

The respondent submitted that the correction in claim 2 was an obvious correction.

The respondent also referred to its written submissions in its response to the grounds of appeal and in its
letter of 7 August 2008. In particular, the respondent stated that claim 1 of the main request only included the embodiments of cold rehydration of dry yeast and the use of temperature sensitive mutant strains of yeast. The yeasts in both cases remained "substantially inactive" at refrigeration temperatures. By contrast, the embodiment of a substrate limited yeast was not encompassed by claim 1 because in this embodiment the yeast was not rendered "substantially inactive" at refrigeration temperatures, as defined in claim 1. The substrate limitation embodiment was encompassed by claim 7 only.

The respondent also submitted in writing that the board of appeal in case T 664/00 did not raise any objection against the clarity of the amended claim and considered the claim clear enough to decide on the issue of novelty. The feature addressed by the appellant under Article 84 EPC was already present in the claim and the claim was considered to be allowable in decision T 664/00. Furthermore, the appellant stressed that the functional feature appearing at the end of the claim was causally attained by the yeast activity in the dough.

The description provided examples how to achieve that functional feature, namely the temperature sensitive yeast and the cold rehydrated yeast. These were related by their function and not their structure. The functional feature common to both embodiments was that the leavening action of the yeast in the dough at refrigeration temperatures is substantially stopped to the extent that the yeast produces so little carbon dioxide that the pressure in the spirally wound
container does not rise above 40psi for 90 days at refrigeration temperatures.

The respondent also stated in writing that the claims must be read in their technically meaningful sense with a mind desirous of understanding and that they should not be read in a literal manner contrary to the skilled person natural understanding.

Furthermore, the respondent argued that in order to establish insufficiency the burden of proof was upon the opponent who should have proven on the balance of probabilities that the skilled reader of the patent using his common general knowledge would be unable to carry out the invention. In this context the respondent cited the decision T 182/89, EPO OJ, 1991, 391. The respondent also submitted that in twelve years the opponent had provided no proof that the skilled person cannot carry out the invention. Moreover, the experimental data announced in the grounds of appeal were never filed. Thus, the opposition division's decision was correct in relation to sufficiency of disclosure.

As regards the issue of inventive step, the respondent argued that one had to look for an objective definition of the problem to be solved. As stated in the patent in suit, "the invention provides a yeast-leavened dough which can be stored at refrigeration temperatures" (column 1, lines 5-6). Thus, the problem faced by the skilled person was to produce doughs capable to be stored at refrigeration temperatures. To use yeasts substantially inactive at refrigeration temperatures contributed to the inventive solution.
The respondent further argued that document (3) was silent about prolonged storage and contained no suggestion or hint in relation to the preparation of a dough capable of being packaged and stored at refrigeration temperatures for 90 days. Additionally, the respondent pointed to the experimental data it had submitted attached as Annex 1 to its letter of 23 September 1999. These experimental data clearly showed that the IAM 4274 yeast strain disclosed in document (3) was not suitable for use in refrigerated dough cans (the refrigerated dough cans burst between 30-40 hours).

As regards document (11) as closest prior art, there was a long felt need to provide yeast-leavened refrigerated dough. This was an indication of the presence of an inventive step. Document (11) addressed the problem of storage by using chemically leavened dough.

The respondent stressed that in any case there was no suggestion in the prior art how to solve the stated problem.

As regards appellant's objections in relation to Its6 yeast, figure 23 showed values under 40psi and the curve depicted that the CO₂ production was "plateauing" well before 40psi. Additionally, looking at figure 24 it was also most likely that the curve was "plateauing". The respondent stated that this last allegation was however not of 100% security, but after 12 years the opponent should have brought proof in order to cast
doubts about the results in the specification of the patent in suit.

As regards claim 7, the respondent submitted that its submissions re Article 83 EPC applied *mutatis mutandis*, that the first priority date claimed was valid for the substrate limitation embodiment and that document (4) did not form part of the prior art for the analysis of Article 56 EPC. Hence, the analysis made for the subject-matter of claim 1 vis-à-vis document (11) also applied in an analogous way to claim 7.

XV. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

The respondent requested that the patent be maintained in amended form on the basis of claims 1 to 9 of the main request filed in the oral proceedings, or, alternatively, that the patent be maintained on the basis of one of the auxiliary requests 1 to 5 filed with letter of 7 August 2008.

**Reasons for the Decision**

1. **Admissibility**

1.1 The appeal is admissible.

The set of claims filed at the oral proceedings merely addresses the obvious correction of an obvious error in claim 2 (see wording of claim 3, which is directly
dependent on claim 2) which had been previously overseen.

By admitting this formal correction the position of the appellant has not been worsened and hence the request is admissible.

The appellant did not object either its admissibility or its allowability.

2. Main request

2.1 Claims' wording

Claim's 1 wording has been addressed by the appellant as lacking clarity under Article 84 EPC. Claim 1 is identical to claim 1 of the set of claims (first auxiliary request filed at the oral proceedings on 28 November 2002) allowed in decision T 664/00. Therefore, the board is convinced that the assessment of the claim's wording within Article 84 EPC appertains to the ratio decidendi of said decision, since the board concluded positively on novelty (i.e. was in the position to understand the subject-matter claimed) and decided not to object the claim for lack of clarity.

In fact, the board concluded in decision T 664/00 that the functional feature included at the end of claim 1 was a delimiting feature.

Correspondingly, the assessment of Article 84 EPC for the subject-matter claimed in claim 1 is outside the framework of the present appeal.
For the sake of completeness it has to be said that claim 1 includes two functional requirements:

a) "the yeast remains substantially inactive at refrigeration temperatures ranging between 0°C and 12°C", and

b) "the dough is capable of being stored for 90 days at refrigeration temperatures without the pressure in a spirally wound container rising above 40psi".

The function b) amounts to the capability of the dough produced by the method to being stored for 90 days at refrigeration temperatures without the standard spirally wound container being burst.

Moreover, these two functions are attainable by two alternative embodiments: cold rehydration of a dried yeast and selection of a low temperature sensitive strain (lts yeast).

Moreover, the board is convinced that the embodiment of substrate limitation is claimed in claim 7 and not in claim 1 since the natural reading of claim 1 is that the yeast has to be inherently inactive at refrigeration temperatures.

2.2 Sufficiency of disclosure

2.2.1 A European patent, in order to be maintained in amended form, must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC). Therefore, the opposition division correctly
investigated sufficiency of disclosure for the subject-matter of both independent method claims (claims 1 and 7). Moreover, the opposition division's findings in relation to sufficiency are in principle endorsed by the board.

It is to be reminded that the content of the whole patent, i.e. the claims and the description (including the examples), has to be investigated by the skilled person in the light of the general common knowledge of the technical field involved.

Additionally, it is the claimed "invention" which has to be investigated. The general legal principle is that the claims define the matter for which protection is sought and the examples illustrate specific ways of performing the invention.

As for the amount of technical detail needed for a sufficient disclosure, this is a matter which depends on an assessment of the facts of each particular case, such as the character of the technical field, and the actual technical detail disclosed.

It is also a generally acceptable principle that in order to establish insufficiency of disclosure the burden of proof is upon the opponent, at least as to cast reasonable doubts on the premise that the skilled person is able to carry out the claimed "invention".

2.2.2 The board is satisfied that the patent in suit contains sufficient technical information for the skilled person to reproduce the invention as claimed in claims 1 and 7. This is reflected by three embodiments in the
specification and examples: 1) use of cold rehydrated yeast, 2) use of low sensitive strain (lts yeast), and 3) substrate limitation.

It becomes apparent from the reading of examples 9 and 10 of the patent in suit that the low temperature sensitive yeast lts6 is a "moderate" low sensitive strain, which means that the method in which lts6 is used does not correspond to the best mode for the claimed "invention". However, the results shown in figure 23 make it plausible that the use of lts6 also meets the requirements of claim 1.

2.2.3 As regards the appellant's arguments they do not suffice, in the absence of any technical evidence, to cast doubts on reproducibility of the claimed "invention".

Moreover, in relation to figure 24 the depicted values end up at 40 days, and the form of the pressure curve does not allow to conclude whether or not the 90 days limit is attained keeping a pressure under 40psi. However, the results plotted in figure 23 allow to consider lts6 appropriate for the method claimed, although it might not be the best choice.

The appellant did not object claim 7 under Article 83 EPC and the board sees no reason to differ from the opposition division's findings.

2.2.4 Accordingly, the requirements of sufficiency of disclosure are met by the main request (Article 83 EPC).
2.3 Inventive step

2.3.1 An inspection of the priority document US 732 081 (priority date 18 July 1991) shows (see inter alia pages 12-14) that this first priority date is valid as filing date for the substrate limitation embodiment reflected by claim 7 (Articles 87, 88 and 89 EPC).

Therefore, document (4), which is only relevant for substrate limitation and which was published on 21 August 1991 does not form part of the prior art within the meaning of Article 54(2) EPC. This document cannot be considered for the assessment of inventive step of the subject-matter of claim 7.

2.3.2 The patent in suit relates to the production of doughs which are yeast-leavened and can be stored at refrigeration temperatures for a prolonged period.

The board is convinced that a straight line is to be drawn between doughs which are capable to be stored at refrigeration temperatures for a prolonged period (sufficient to be stored during shelf life in standard cans) and doughs which are not.

Therefore, the purpose underlying the present "invention", which is not artificial in the technical field involved, is essential for the investigation of the prior art.

There is no single prior art under Article 54(2) EPC which specifically discloses the production of doughs capable of being stored at refrigeration temperatures for a prolonged period of time and which are yeast-
leavened. Therefore, the closest prior art is the traditional method of production of doughs capable of being stored (at refrigeration temperatures) for a prolonged period of time, which are leavened by chemical leavening agents.

Document (11), which is representative of this traditional and successful method, represents the closest prior art.

Document (11) discloses packaged pre-leavened doughs "suitable for distribution through ordinary food merchandising channels and prepared ready for baking by the housewife". The container is a spiral-wound cylindrical cardboard tube with tin plate ends clamped thereon (column 4, lines 57-59), i.e. the standard can also mentioned in the patent in suit. The dough is produced according to the method disclosed in document (11) by mixing inter alia water (in fact milk is used), flour, sugar, salt and chemically leavening agents such as sodium bicarbonate and sodium acid pyrophosphate (example in column 4).

Thus, the problem to be solved lies in the provision of an alternative method for production of doughs capable to be stored at refrigeration temperatures for prolonged periods of time (in other words the production of doughs suitable to be kept undamaged in standard containers during shelf-life at refrigeration temperature).

There are three alternative solutions covered by the claims. However, they all imply the use of yeasts as leavening agents, with the further functional condition
that CO$_2$ production by the yeast does not evolve in the
dough beyond a certain limit (this is reflected in
claim 1 by the functional feature concerning storage at
the end of the claim and in claim 7 by the functional
feature defining the maximum volume of CO$_2$ per 100g of
dough at a certain temperature). Moreover, the
alternative solutions linked to the functional features
of the independent claims relate to: the use of yeast
which are substantially inactive at refrigeration
temperatures (this includes two embodiments: cold
rehydrated yeasts and low temperature sensitive yeasts)
and the use of the concept of substrate limitation
(this includes using flour in which the damaged starch
is limited and the use of MAL- yeast strains).

The description of the patent in suit and the examples,
as well as the additional experimental data filed by
the respondent during the whole proceedings make it
plausible that the above defined problem is solved by
all the alternative solutions included in the claims.

It remains to be investigated whether the proposed
solutions are obvious to the skilled person in the
light of the cited prior art.

Document (11) also mentions yeast as possible leavening
agent. However, the initial leavening action "should be
exhausted or inhibited before the packaged dough leaves
the carefully controlled conditions of the
manufacturing plant and enters the channels of
distribution. In particular it is essential that the
dough be free from living gas-forming micro-organisms
when it is sent out; and, if yeast or other organic
growth is initially used as leavening means, further
activity of such organisms should be inhibited" (column 3, lines 29-39).

Although document (11) foresees the possibility of using yeasts as leavening agents for the storable dough, it does not include any teaching for the skilled person how to achieve that target.

Moreover, although document (11) is a patent of 1949, there is not available in the prior art within the meaning of Article 54(2) EPC any hint or suggestion how to overcome the drawbacks of using living yeasts as leavening agent (i.e. how to sufficiently stop the CO₂ production in the dough) in the method of document (11).

Document (3) does not address the problem of storing at refrigeration temperatures yeast-leavened dough, nor includes any useful teaching for the skilled person facing the above defined problem.

Therefore, the solution proposed in the main request is not rendered obvious by the cited prior art.

2.3.3 The appellant considered document (3) as the closest prior art. However, document (3) relates to a "method of producing bread with improved flavour which can rationalize the conventional bread baking process at a stroke" (page 3, paragraph under the heading "Means of solving the problems").

Additionally, the method of document (3) "comprises refrigerating a first dough ... in a low temperature range, following by using a second dough by adding a
material... to the first dough and kneading again" (page 3, second paragraph from the bottom up).

Document (3) does not contain any information as how to produce a dough storable at refrigeration temperatures for a prolonged period.

Although it is a fact that a low temperature strain is employed for the fermentation of the "first dough" and that this yeast is defined as "having a capacity to suppress fermentation at a low temperature range of -5 to 15°C" (page 3, last paragraph), the low temperature sensitive yeast specifically disclosed in document (3) (namely Saccharomyces cerevisiae IAM 4274) has been shown (see the experimental data attached as Annex 1 to the patent proprietor's letter of 23 September 1999) to be unsuitable for fulfilling the function defined in claim 1 of the main request. Therefore, the dough produced in document (3) by using a lts strain is not storable at refrigeration temperatures for a prolonged period and the document does not contain any hint in this respect.

2.3.4 Therefore, the subject-matter claimed in the main request meets the requirements of Article 56 EPC.

2.4 In view of the conclusions reached above for the main request, it is not necessary to contemplate the auxiliary requests filed by the respondent.
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is maintained in amended form in following version:

   Claims: 1 to 9, filed in the oral proceedings description, drawings, as maintained by the opposition division.

The Registrar:     The Chairman:

N. Maslin           U. Oswald