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D E C I S I O N
of 12 August 1998

Case Number: T 0674/92 - 3.3.2

Application Number: 84201013.4

Publication Number: 0132877

IPC: A23F 5/04

Language of the proceedings: EN

Title of invention:
Ultrafast roasted coffee

Patentee:
The Procter & Gamble Company

Opponent:
General Foods Corporation
Jacobs Suchard GmbH

Headword:
Coffee product/PROCTER & GAMBLE

Relevant legal provisions:
EPC Art. 52(1), 54, 64(2), 111(1), 113(1)

Keyword:
"Novelty (no): product defined by the method of its preparation not distinguishable from prior art disclosed products"
"Requirements of Article 113(1) EPC satisfied: respondents were repeatedly invited to present their comments and to amend the claims"
"No remittal to the department of first instance: lack of interest and participation of the respondents to defend their case in the appeal proceedings; withdrawal of the request for oral proceedings already scheduled"

Decisions cited:
T 0133/87, T 0664/90, T 0896/90

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0674/92 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 12 August 1998

Appellant: (Opponent 01)
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Decision under appeal: Decision of the Opposition Division of the European Patent Office posted - rejecting the opposition filed against European patent No. 0 132 877 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: P. A. M. Lançon
Members: G. F. E. Rampold
J. H. van Moer

Summary of Facts and Submissions

I. European patent No. 0 132 877 comprising 18 claims was granted in response to European patent application No. 84 201 013.4.

Claim 1 had the following wording:

"A process for preparing a coffee product comprising:

(1) roasting green coffee beans in a fluidized bed roaster from 30 seconds to 120 seconds at temperatures from 550°F (288°C) to 750°F (399°C), to a color of from 19 to 23 Hunter "L" units, wherein the surfaces of the roasted beans are not more than 10 Hunter "L" units different in color from the average color throughout the beans;

(2) air quenching the roasted coffee to a temperature of less than 300°F (149°C) in 20 seconds or less;

(3) further cooling the roasted coffee using air or an inert gas such as nitrogen, carbon dioxide or helium to below 100°F (38°C) in 100 seconds or less;

(4) grinding the quenched and cooled coffee in a manner such that the overall color of the ground coffee is from about 19 to about 25 Hunter "L" units."

II. Notice of opposition to the grant of the patent was filed

(i) by appellants (opponents) 01 under Article 100(a), (b) and (c) EPC requesting that the patent be revoked in its entirety on the grounds of lack of

novelty (Article 52(1), 54 EPC), lack of inventive step (Article 52(1), 56 EPC), insufficiency of disclosure (Article 83 EPC) and added subject-matter (Article 123(2) EPC); and

(ii) by appellants (opponents) 02 under Article 100(a) and (b) EPC requesting that the patent be revoked in its entirety on the grounds of lack of novelty (Articles 52(1), 54 EPC), lack of inventive step (Articles 52(1), 56 EPC), and insufficiency of disclosure (Article 83 EPC).

Out of the 8 citations relied on by the appellants in support of their requests in the course of the first-instance opposition proceedings, only the following remained relevant in the appeal proceedings and are accordingly referred to in this decision:

(1) CA-A-98 92 46 -
(2) US-A-3 122 439

III. The interlocutory decision of the opposition division dated 12 May 1992 and posted on 29 May 1992 established that the patent could be maintained under Article 102(3) EPC in amended form on the basis of claims 1 to 17 filed on 21 December 1989.

Amended claim 1 reads as follows:

"A process for preparing a coffee product comprising:

(1) roasting green coffee beans in a fluidized bed roaster from 30 seconds to 120 seconds at temperatures from 550°F (288°C) to 750°F (399°C), to a color of from 19 to 23 Hunter "L" units, wherein the surfaces of the roasted beans are not more

than 10 Hunter "L" units different in color from the average color throughout the beans and wherein the level of fluidization during the roasting is from 9 to 14 pounds (4 to 6 kg) of hot air per pound (0.454 kg) of green coffee per minute,

(2) air quenching the roasted coffee to a temperature of less than 300°F (149°C) in 20 seconds or less, at a level of from 15 to 20 pounds (7 to 9 kg) of air per pound (0.454 kg) of roasted coffee per minute;

(3) further cooling the roasted coffee using air or an inert gas such as nitrogen, carbon dioxide or helium to below 100°F (38°C) in 100 seconds or less;

(4) grinding the quenched and cooled coffee in a manner such that the overall color of the ground coffee is from about 19 to about 25 Hunter "L" units."

Claim 1 is followed by dependent claims 2 to 10 relating to specific embodiments of the process according to claim 1.

Independent claim 11 reads as follows:

"A product made according to claim 1, 5, 6, 9 or 10."

Claim 11 is followed by dependent claims 12 to 17 relating to specific embodiments of the product according to claim 11.

IV. In the above decision the opposition division held that the claimed process was novel since none of the cited documents disclosed a coffee roasting process characterised by the combination of parameters given in claim 1.

The technical problem was seen by the opposition division as that of making a coffee product having, in addition to a good aroma, an improved brew holding quality when held on a warming plate for an extended period of time. The solution to the problem was, in the opinion of the opposition division, based on the specific and non-obvious selection of the parameters used in the roasting process according to present claim 1. The subject-matter of the contested patent was therefore considered to involve an inventive step.

V. Both appellants 01 and appellants 02 filed an appeal against the decision of the opposition division and submitted their statements setting out the grounds of appeal within the time limit set by Article 108 EPC.

VI. In the communication of 7 November 1997, the board drew attention to serious doubts about the patentability of the product-by-process claims on file, especially independent claim 11, and explained why it found the test results, provided by the parties in order to compare the brew holding quality of the different coffee beverages tested, in several aspects contradictory and inconsistent. The parties were invited in the said communication to present their comments on the objections raised by the board. It was moreover left to the respondents' discretion to file amended product claims with the aim of providing a clearer and more precise definition of the claimed coffee product, possibly on the basis of the specific product parameters available in the patent specification.

VII. Oral proceedings had been requested by all parties and were scheduled to take place on 12 August 1998. Appellants 01 informed the EPO in their letter of 29 June 1998 and appellants 02 in their letter of 17 July 1998 about their intention not to attend the oral proceedings. In their letter of 22 July 1998, the respondents withdrew their request for oral proceedings and announced that they would not appear at the oral proceedings.

On 12 August 1998 oral proceedings were held in the absence of the parties; after deliberation of the board, the chairman announced the decision.

VIII. The arguments submitted by the appellants in the course of the written procedure can be summarised as follows:

Citations (1) and (2) represented the closest state of the art available in the proceedings. In the example on page 18 of (1), coffee beans were roasted in a hot air fluidised bed for 65 seconds at a temperature of 600°F (316°C). These values corresponded nearly exactly to the roasting time of 60 seconds and roasting temperature of 615°F used in example 1 of the contested patent. Citation (2) referred also to an ultrafast roasting process in a hot air fluidised bed roaster using, for example, a roasting time of 35 seconds and roasting temperature of 750°F (399°C). Both these values fell within the ranges given in claim 1 of the contested patent.

Although the colour to which the coffee beans were roasted and finally ground and the level of fluidisation during roasting were not explicitly disclosed in citations (1) and (2), the rather broad range of about 19 to 23 Hunter "L" units in step 1 and about 19 to 25 Hunter "L" units in step 4 of the process according to claim 1 of the contested patent

covered the entire colour range of normally roasted coffee from very dark to very light roasts. The parameters given in claim 1 for the roasting time [from 30 to 120 seconds], roasting temperature [from 550°F (288°C) to 750°F (399°C)] and level of fluidisation during roasting [from 9 to 14 pounds (4 to 6 kg) of hot air per pound (0.454 kg) of green coffee per minute] represented not narrow or specific ranges but corresponded to the ranges the skilled roaster would necessarily select to obtain a normal roasted and ground coffee within the broad range of colour of from 19 to 25 Hunter "L" units.

Since it was in fact the choice of the desired colour of the roasted coffee which in reality determined the required roasting conditions, it was clear that neither the colour nor the level of fluidisation were explicitly disclosed in the cited documents. Moreover, the required level of fluidisation was predetermined by the amount of coffee fed to the particular type of fluidised bed coffee roasting apparatus used and the need to generate an appropriate and stable state of fluidisation in said apparatus.

As far as the cooling conditions given in steps 2 and 3 of the claimed process were concerned, the roasted beans in citations (1) and (2) were also taken out of the hot air fluidised bed and cooled in a cold air fluidised bed immediately after the end of the roasting period . The respondents themselves had submitted in the "Price" declaration that steps 2 and 3 could be combined in one step. In fact, the only essential requirement was that the beans were cooled down quickly. This was, however, already disclosed in the cited documents.

The step of grinding the roasted and cooled coffee beans in citations (1) and (2) also corresponded exactly to step 4 in claim 1 of the contested patent. The colour of the ground coffee was of course determined by the colour of the roasted beans.

Even if the wording used in claim 1 of the contested patent to define the claimed process for preparing a coffee product was possibly not directly derivable from the prior art of (1) or (2), the cited documents already made the claimed process available to a skilled person in the form of a technical teaching. The respondents were unable to show any difference between a product obtainable by the process of present claim 1 and that obtainable by the process of the above-mentioned examples in citations (1) and (2), since such a difference did not in fact exist.

The respondents had never compared the properties of a coffee product obtained by the process according to present claim 1 with those made by the processes of the closest state of the art according to citations (1) and (2). Apart from the fact that the "Weinberger" and "Price" declarations failed to demonstrate clearly that a coffee brew using a coffee product prepared by the process of present claim 1 did indeed exhibit an improved holding quality when held on a warming plate for an extended period of time, the comparison made in the said declarations was irrelevant, since both the values of the roast colour and the level of fluidisation during roasting used in the comparative example were not taken from the state of the art but were only arbitrarily selected outside the respective ranges claimed in present claim 1.

As an auxiliary request, appellants 02 requested for the first time at the appeal stage that evidence regarding the brew holding quality of the claimed coffee product be taken by an independent expert or institution.

IX. The relevant arguments submitted in course of the written procedure on behalf of the respondents can be summarised as follows:

The problem underlying the present invention was the provision of an improved coffee product having an increased extractability and excellent aroma and flavour, reduced bitterness of the coffee brew obtained from said product and improved holding quality on heating. This problem was solved by the process of claim 1 comprising the roasting step 1, the air quenching step 2, the further cooling step 3 and the grinding step 4. Since neither of the citations 1 or 2 disclosed all the technical features of the process according to claim 1, the claimed process was undoubtedly novel.

Neither from the disclosure of citation (1) nor from that of (2) the skilled person could derive the specific process parameters of present claim 1, that is to say roasting the coffee beans from 30 to 120 seconds at temperatures of from 550°F (288°C) to 750°F (399°C), to a colour of from 19 to 23 Hunter "L" units, wherein the surfaces of the roasted beans are not more than 10 Hunter "L" units different in colour from the average colour throughout the beans using a specifically defined level of fluidisation. The appellants' argument that the preferred roasting conditions recommended in (1) would necessarily lead to the colour values specified in claim 1 was neither substantiated nor implicitly derivable from the cited document.

Similarly, citation (2) did not, with the exception of the range of the roasting temperature, provide any further information as to the specific parameters used in the process of present claim 1.

The exact testing methods used to determine the holding quality of the different coffee products tested were disclosed insufficiently in the test report submitted by the appellants (ie "Günther" declaration filed on 19 May 1994) and the results of these tests were therefore insignificant. Moreover, these tests failed to support the appellants' allegation that the coffee product made by the process of claim 1 did not exhibit the desired valuable properties, especially the improved brew holding quality.

On the other hand, the "Weinberger" and the "Price" declarations showed that adherence to the values given in claim 1 for the roast colour and the level of fluidisation during roasting was indeed essential for achieving the desired beneficial effect of the invention.

X. Both appellants 01 and appellants 02 requested in writing that the decision under appeal be set aside and that European patent No. 132 877 be revoked in its entirety.

XI. The respondents requested in writing that the appeal be set aside and that the patent be maintained on the basis of claims 1 to 17 filed on 21 December 1989.

Reasons for the Decision

1. The appeal is admissible.

2. Although appellants (opponents) 01 have invoked in the notice of opposition Article 100(a), (b) and (c) EPC as grounds for opposition and appellants (opponents) 02 Article 100(a) and (b) EPC, the oppositions on the grounds of insufficiency of disclosure (Article 100(b) in conjunction with Article 83 EPC) and added subject-matter (Article 100(c) in conjunction with Article 123(2) EPC) have never been substantiated. Neither of the appellants has presented during the first-instance opposition or during the appeal proceedings any indication of the facts, evidence or arguments in support of the grounds mentioned in Article 100(b) and (c) EPC, contrary to the requirements of Rule 55(c) EPC. The board considers it therefore inappropriate to take the latter grounds for opposition into consideration (see in this respect decisions G 9/91 and G 10/91, OJ EPO 1993, 408 and 420).

3.1 The contested patent contains two different categories of claims, more particularly,

(i) independent process claim 1 followed by dependent claims 2 to 10 relating to a process for producing a coffee product; and

(ii) independent product claim 11 followed by dependent claims 12 to 17 relating to the said coffee product *per se*.

As far as the product claims are concerned, claim 11 is directed to the "product made according to claims 1, 5, 6, 9 or 10". **Claim 11** is therefore the **broadest** claim

on file, as it covers **the product *per se* of the process of claim 1** and confers absolute protection upon such product wherever it exists and whatever its context. In cases where the opposition is directed against the patentability of the patent as a whole, it appears from a procedural and practical point of view reasonable, and corresponds to the usual practice of the EPO that the department responsible for the decision should examine in the first place the patentability of the broadest claim opposed.

3.2 Both appellants (opponents) requested in their notice of opposition that the patent be revoked in its entirety under Article 100(a) EPC on the grounds of lack of novelty, pursuant to Article 54(1) EPC, and lack of inventive step, pursuant to Article 56 EPC, of both the **process** according to claims 1 to 10 **and** the **product** according to claims 11 to 17.

In particular, lack of novelty of the claimed product is *expressis verbis* indicated and substantiated by appellants 01 in the statement of grounds filed under Rule 55(c) EPC on 28 February 1989, especially from page 7, line 6 to page 8, line 10. It is similarly raised by appellants 02 in that, in the notice of opposition filed on 1 March 1989, they marked the respective boxes in sections V. and VI. of EPO Form 2300.2, thereby indicating that opposition is filed against **the patent as a whole**, *inter alia*, on the grounds of **lack of novelty (Articles 52(1); 54 EPC)**. It is, moreover, substantiated in their statement of grounds, especially on page 9, point 5, in conjunction with page 9, paragraph III (see in this respect decision T 896/90 dated 22 April 1994, especially reasons, point 4).

3.3 The boards have consistently decided that claims for products defined in terms of processes for their preparation ("product-by-process" claims) are admissible only if - apart from any other conditions - the products themselves fulfil the requirements for patentability, ie in particular if they are new and involve an inventive step.

In the context of the present claims, it also appears necessary to point out that Article 64(2) EPC neither confers novelty on a claim which is drafted as a "product-by-process" claim when no novelty exists in such product *per se*, nor entitles or enables an applicant for a European patent to include in his patent such claims which do not satisfy the requirements for patentability of Article 52(1) EPC.

In this connection reference is also made to decision T 664/90 of 9 July 1991 (see especially reasons, point 4), where the board stated "once the product itself is part of the state of the art and is not novel according to the criterion of novelty as set out in Article 54(1) EPC, the fact of defining this product by reference to a new process is irrelevant to the question of novelty".

It follows that "product-by-process" claims in general have to be interpreted in an absolute sense, ie independently of the process. Therefore, if the novelty of a "product-by-process" claim is at issue, novelty has to be examined and assessed independently of the potential novelty of the process.

3.4 In the last three lines on page 2 of the impugned decision the opposition division referred to the requests of the parties submitted during oral proceedings by including the following statement:

"The Patentee and both Opponents **maintained their requests as submitted in the written proceedings"** (concerning theses requests see point 3.2 *supra*). Notwithstanding this, the decision goes on to verbatim state on page 3 starting with the heading "Novelty (Article 54 EPC):

The Opposition Division in the Communication of 20 February 1991 expressed the view that in none of the documents cited by the Opponents is a coffee roasting **process** disclosed being characterized by a combination of parameters as given in the newly filed Claim 1.

At Oral Proceedings both Opponents agreed that the **process** as claimed is novel; hence **this point** needs no further discussion."

The above statement in the impugned decision indicates in the board's opinion quite clearly that, **although the opposition division was aware of the two different categories of claim**, it acknowledged nevertheless in the grounds for the decision specifically and only the novelty of the process and not that of the claimed subject-matters in the contested patent as a whole. No explicit or implicit opinion regarding the novelty of the product claims is derivable from the said grounds.

3.5 Thus, careful revision and inspection of the minutes of the oral proceedings dated 12 May 1992 and the complete decision issued in writing on 29 May 1992, on the one hand, and the present claims, on the other, leads the board to the conclusion that the opposition division ignored the appellants' requests in so far, as it refrained from an examination of the novelty and inventive step of the product claims included in the contested patent and from giving an opinion on the

patentability of these claims. However, a decision on this question should have been given independently of the question whether or not the process was potentially patentable (see point 3.3 *supra*) in response to the request of both appellants (opponents) to revoke the patent in its entirety on the grounds of non-patentability of the claimed process and product as well.

4.1 As a consequence of the board's finding mentioned above and the examination of the product claims, the parties were informed in the official communication dated 7 November 1997 (see especially point 4) that the novelty of the "product-by-process" claims and, in particular, of the broadest claim 11 of the contested patent was, in the board's judgment, questionable and, consequently, maintenance of the patent on the basis of the claims on file, as requested by the respondents, was possibly at risk. The parties were therefore informed that the novelty of claim 11 would be the first issue to be considered in the proceedings before the board.

As provided for in Rule 57 EPC, the board also invited the respondents (proprietors) in the said communication to reconsider their request, to submit their comments and recommended the filing of amended claims containing a more precise definition of the claimed product on the basis of the specific product parameters disclosed in the specification, in order to delimit more clearly the claimed product in the contested patent from the cited state of the art.

In the annex of 25 March 1998 to the summons to attend oral proceedings scheduled to take place on 12 August 1998 the board renewed its invitation to the respondents to submit their comments and possibly to file amended claims, and extended the period for complying with this invitation to six weeks before the date fixed for the oral proceedings.

4.2 With their letter dated 29 April 1998, the respondents informed the EPO about their intention to file their observations before 1 July 1998. However, in their subsequent letter dated 22 July 1998, the respondents withdrew their request for oral proceedings and informed the EPO about their intention not to attend the oral proceedings. In the same letter, the respondents confirmed their request that the patent be maintained in its entirety on the basis of the claims filed on 19 December 1989, ie the claims which formed the basis for the decision of the opposition division, without presenting any further facts, evidence or arguments in support of their request.

4.3 In view of the foregoing, the board is of the opinion that the present decision does not contravene the respondents' procedural rights laid down in Article 113(1) EPC, since they were **repeatedly** given the opportunity to present their comments regarding the patentability of the product claims, to file suitable amendments and to defend in the appeal proceedings either in writing or at the oral proceedings their request that the patent be maintained in the form as maintained by the opposition division.

5.1 In accordance with decision T 133/87, dated 23 June 1988, Article 111(1) EPC does not guarantee the parties an absolute right to have all the issues in the case considered by two instances. Rather, this is a matter of discretion which is left to the board depending upon

the complexity of the matter and all the circumstances of the individual case. Although no further indications are given as to the criteria by which the exercise of the board's discretion under Article 111(1) EPC should be governed, it is well recognised that the general guideline should be that any party should be given the opportunity to two readings of the important elements of the case (see Case Law of the Boards of Appeal of the European Patent Office, Munich 1996, VI. E. 8.; Van Empel, The Granting of European Patents, Leyden, 1975, No. 518).

If a first-instance department gives a decision leaving essential issues undecided, for example, the question of the patentability of certain claims, the case is therefore normally remitted to the first-instance department for consideration of the undecided issues, in order to allow said issues to be examined at two levels of jurisdiction and thus so as not to deprive the proprietors, ie the respondents in the present case, of one such level of jurisdiction. (cf. Paterson, The European Patent System, London 1992, page 90, No. 2-83; Moser, Europäisches Patentübereinkommen, Münchner Gemeinschaftskommentar, 1997, Article 111, 6.1).

5.2 Such a procedure is, in the board's judgment, clearly appropriate in cases where the proprietors, during the appeal proceedings, give a positive indication of their intention to defend their case, for example, by submitting their comments to an official communication calling into question the patentability of all or certain claims on file, or by filing suitable amendments and, in particular, by attending the oral proceedings they themselves have requested. In the present case, however, the respondents did not provide such positive indication at all.

On the contrary, the respondents (proprietors) have neither filed their observations and comments to the board's communications nor submitted their opinion as to the patentability of the product claims, although considered questionable by the board, and have, moreover, decided not to attend the oral proceedings already scheduled. Hence, they have deprived themselves of the possibility of appropriately defending their request in the appeal proceedings. In view of the above considerations the board has, in the exercise of its discretion under Article 111(1) EPC, refrained from referring the case back to the department of first instance for further prosecution.

5.3 If the board follows this approach, the respondents lose in the present case one instance of examination in respect of the patentability of the product claims. However, this appears acceptable because of their lack of interest and participation in the appeal proceedings. In the particular circumstances of the present case, the alternative course of referring the case back to the department of first instance for examination would, in the board's judgment, irresponsibly prolong the proceedings, unjustifiably increase the costs, and would be unfair to the appellants.

6.1 Present claim 11 ("A product made according to claim 1") relates to an **ultrafast roasted coffee product** which is defined not by structural characteristics (substance parameters) but only by the method of its preparation (process parameters). According to claim 1 said method comprises the steps of

(a) **roasting green coffee beans** in a **fluidised bed roaster** from **30 seconds to 120 seconds** at temperatures from **550°F (288°C) to 750°F (399°C)**, to a colour of from 19 to 23 Hunter "L" units,

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wherein the surfaces of the roasted beans are not more than 10 Hunter "L" units different in colour from the average colour throughout the beans and wherein the level of fluidisation during the roasting is from 9 to 14 pounds (4 to 6 kg) of hot air per pound (0.454 kg) of green coffee per minute,

(b) **air quenching the roasted coffee** to a temperature of less than 300°F (149°C) in 20 seconds or less, at a level of from 15 to 20 pounds (7 to 9 kg) of air per pound (0.454 kg) of roasted coffee per minute, **further cooling the roasted coffee using air** or an inert gas such as nitrogen, carbon dioxide or helium to below 100°F (38°C) in 100 seconds or less,

(c) **grinding the quenched and cooled coffee** in a manner such that the overall colour of the ground coffee is from about 19 to about 25 Hunter "L" units.

6.2 Products of the same type, namely **ultrafast roasted coffee products**, are already known from citations (1) and (2), respectively. The process according to claim 1 for preparing the coffee product of claim 11 of the contested patent also follows the same basic principle and procedural steps as set forth in citations (1) and (2).

Thus, in the example beginning on page 18, citation (1) discloses an ultrafast roasting process comprising the steps of

(a) **roasting green coffee beans** in a hot **air fluidised bed roaster** for **65 seconds** at a temperature of **600°F (319°C)**; at lines 16 to 18 on page 5 of (1) it is mentioned that the beans should not be roasted **"to too dark a colour"**;

(b) **cooling the roasted beans in a cold air fluidised bed**; and

(c) **grinding the cooled coffee beans**; in the paragraph bridging pages 5 and 6 of (1) reference is made to the fact that the roasted coffee is ground to obtain **the "regular", "drip" or "fine" grind.**

Citation (2) similarly discloses an ultrafast roasting process (Roast No. 3) comprising the steps of

(a) **roasting green coffee beans in a hot air fluidised bed roaster** (see column 1, lines 42 to 65) for **35 seconds** at a temperature of **750°F (399°C)** (see the paragraph bridging columns 2 and 3, Table I); at lines 26 to 29 in column 4 of (2) it is moreover mentioned that "the roast my be performed to achieve **a particular colour** in the roasted coffee, **ranging say from light to dark** and including any desired intermediate shade";

(b) **air quenching and cooling the roasted beans quickly in a cold air fluidised bed** (see column 2, lines 7 to 16; lines 66 to 68 in connection with column 3, lines 1 to 2);
and

(c) **grinding the beans** (see column 4, lines 17 to 20).

6.3 As can be seen from the above comparison, the method of present claim 1 for preparing the coffee product of present claim 11 relies with regard to the relevant conditions for **(a) roasting** the green coffee beans, **(b) cooling** the roasted beans and **(c) grinding** the cooled roasted beans on the **fundamentally known ultrafast roasting processes** disclosed in (1) or (2) and refers to certain additional process parameters which are not explicitly mentioned in the cited documents.

According to an empirical principle in chemistry, which appears unquestionably applicable to a process for roasting coffee beans, provided that the same type or blend of green coffee beans is used, the use of approximately identical process conditions and operating parameters generally results in identical or approximately identical products. Consequently, the coffee product made by the process of present claim 1 cannot automatically be considered novel over the products obtainable by the process of (1) or (2) as a result of the reference in said claim to certain additional process parameters which are not explicitly mentioned in the cited documents. To establish novelty, it would be necessary to provide evidence that adherence to one or more of these parameters does indeed lead to other (different) products.

Although, in principle, such evidence could conceivably be provided in a variety of ways, for example on the basis of certain distinctly different parameters or characteristics of the claimed product, or by the demonstration of distinct differences in the product's properties, in the present case, evidence of the novelty of the claimed product was not, in the board's judgment, made available.

6.4 One of the process parameters not explicitly mentioned in citations (1) or (2) comprises first roasting the green coffee beans to a certain colour and finally grinding the roasted beans to a particular colour within the rather broad range of from about 19 to 25 Hunter "L" units. Since the product made by the process of claim 1 including the above-mentioned steps (a), (b) and (c) is **the roasted and ground coffee,** it is only the colour of the ground coffee which is representative of the claimed product. In this respect the board considers it appropriate to mention that the Hunter "L" scale goes from absolute black (L = 0) to absolute white (L = 100).

As is stated, for example, in citation (2) ("the roast may be performed to achieve a particular color in the roasted coffee" - see lines 26 to 29 in column 4) and appears moreover immediately evident to a person skilled in the art, the colour of the roasted and ground coffee primarily depends on the roasting conditions used, particularly on the roasting time and roasting temperature. However, both the roasting temperature and roasting time used in citations (1) or (2) fall within the ranges specified in present claim 1. Moreover, the roasting conditions disclosed in the example on page 18 of (1), ie 65 seconds at a temperature of 600°F (316°C), are substantially the same as those used in example 1 of the contested patent, ie 60 seconds at a roasting temperature of 615°F (324°C). The skilled person would therefore reasonably expect the colour of the roasted and ground coffee in both cases to be approximately the same as well.

The respondents have asserted that the particular level of fluidisation used during the roasting process was similarly responsible for obtaining a coffee product having a colour falling within the range specified in claim 1. However, the required lower limit of the

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fluidisation level appears to be predetermined in any case by the amount of coffee fed to the particular type of fluidised-bed coffee-roasting apparatus used and by the need to maintain the beans in an active state of fluidisation in said apparatus (see, for example citation (2), column 2, lines 52 to 64 in conjunction with lines 68 to 72).

On the other hand, the respondents have demonstrated in the "Weinberger" declaration, filed on 21 December 1989, that a fluidisation level above the upper limit specified in claim 1 provided a roast colour of 18 Hunter "L" units which, according to the undisputed submissions of appellants 01 (see letter of 18 September 1990, page 2), is indicative of a very dark roasted coffee having an inherent bitter taste. In contrast to this, in citation (1) reference is made to the fact that the beans should **not** be roasted "to too dark a colour" (see page 5, lines 16 to 18) and in citation (2) that "the roast may be performed to achieve a particular colour in the roasted coffee, ranging say from light to dark and including any desired intermediate shade" (see column 4, lines 26 to 29).

According to a further undisputed submission of appellants 01 (see especially letter dated 18 September 1990, page 2), the rather broad range of about 19 to 25 Hunter "L" units, corresponding to from 35.0 to 78.9 photovolt, covers the entire sector from very dark to very light roasted coffee. The respondents themselves have submitted in their letter dated 17 March 1993 (see especially page 5, second full paragraph) that coffees which are roasted to a colour of from 19 to 23 Hunter

"L" units, before grinding of the beans, are basically known. Moreover, at an earlier stage, in their letter of 6 September 1990, the respondents provided examples of coffees sold in the USA having a Hunter "L" colour falling within the range given in claim 1.

In conclusion, there is no evidence available that adherence to certain additional process parameters during the roasting step (a) which are not explicitly mentioned in citations (1) or (2), namely first roasting the green coffee beans and finally grinding the roasted beans to a particular colour within the broad range of from about 19 to 25 Hunter "L" units and using a level of fluidisation during the roasting within the similarly broad range specified in claim 1, would indeed result in products which are distinctly different from those disclosed in (1) or (2).

6.4 As far as the cooling step (b) is concerned, the respondents themselves have admitted that it is acceptable to use a one-step instead of a two-step cooling process to obtain a coffee product having the desired quality. According to the respondents' submission the essential conditions of the cooling process of the contested patent merely require the roasted coffee beans to be cooled quickly using air as the cooling medium to stop the roasting reactions and to keep the colour from developing further (see point 1 of the "Price" Declaration filed on 21 August 1991).

However, already in the example on page 18 of citation (1) the skilled person is given the following instructions: "the roasted beans are then [after they have been roasted for 65 seconds] taken out of the hot air fluidized bed and cooled in a cold air fluidized bed;" similar instructions are given in the relevant above-mentioned example of citation (2): "the beans were immediately ejected from the column [hot air

fluidised bed] by a blast of cold air and **air quenched**" (see column 2, lines 66 to 68, in conjunction with column 3, lines 1 to 2). The importance of cooling the roasted beans quickly at the end of the roasting period to take advantage of the rapid heat transfer possible with the fluidising technique and to avoid loss of some of the benefits of the short-time roast is moreover mentioned at lines 7 to 16 in column 2 of citation (2). Hence, the cooling conditions in step (b) of claim 1 likewise correspond essentially to those used in citations (1) or (2). Consequently, the product of claim 11 would not reasonably be expected to be different from those disclosed in (1) or (2) as a result of adhering to the cooling conditions used in the contested patent.

6.5 The method of grinding the roasted coffee beans to obtain either the traditional "regular", "drip" or "fine grind", as suggested at lines 43 to 65 on page 4 of the contested patent, corresponds exactly to the method recommended in (1) from line 23 on page 5 to line 22 on page 6. Grinding the quenched and cooled coffee in a coffee grinder or other coarse grinding device is also disclosed at lines 17 to 18 in column 4 of citation (2).

Therefore, the grinding step (c) cannot reasonably contribute to a difference between the claimed product and those of the prior art according to (1) or (2) either.

6.6 All in all, there is no clear indication, let alone convincing evidence, available leading the skilled person to the conclusion, that the coffee product made according to claim 1 (the product according to

claim 11) is in fact distinguished by certain distinctly different parameters or characteristics from those obtained by the processes disclosed in citations (1) or (2), as a result of the particular method of its preparation.

6.7 With a view to providing such evidence, the respondents have compared certain properties (brew holding quality when held on a warming plate for an extended period of time) of a coffee beverage brewed using a coffee made according to present claim 1 with those of a coffee beverage brewed from a coffee which had been roasted at a level of fluidisation outside the claimed range to a colour similarly outside the claimed range (18 Hunter "L" units, see the "Weinberger" and "Price" Declarations). This comparison, in the board's view, in no way conclusively demonstrates that the properties of the claimed coffee product made by the process according to present claim 1 indeed differ markedly from those of a coffee product which was roasted using the above-mentioned parameters outside the claimed ranges.

In this respect, as a preliminary point, it must be noted that the properties demonstrated by the respondents do not concern the coffee product made according to claim 1 (ie the roasted and ground coffee) itself, but a coffee beverage brewed from the said product or the comparative product, and are therefore **not directly attributable** to the products themselves. It must also be emphasised that the values of the roasting colour and level of fluidisation used for preparing the comparative coffee product were not found in citations (1) and (2) but have arbitrarily been chosen outside of the claimed ranges.

More importantly, the evaluation of the results of the comparative test on the part of the respondents also appears to be rather confusing. Although the method of testing the holding quality and the numerical scale used for determining the particular DOD values appear to be the same in the tests referred to in the patent specification and in the above mentioned declarations, at lines 19 to 24 and in Table I (lines 56 to 58) on page 7 of the patent specification **a maximum DOD value of 0.5 is considered acceptable** for indicating that a coffee beverage brewed using a coffee made by the process according to present claim 1, when held for one hour on a warming plate, is **not significantly different in flavour** from the same freshly brewed coffee beverage. On the other hand, in the "Weinberger" and "Price" declarations **the same DOD value of 0.5** (found for the test sample outside the invention) is considered **statistically significant** at the 95% level, indicating that a flavour difference existed (see "Price" declaration, page 6). However, in contrast to the above evaluation of the test results in the "Price" declaration, on the basis on the original information provided in the patent specification the skilled person must reasonably conclude, that the test sample outside the invention showing a DOD value of 0.5 similarly complies with the required holding quality which is considered in the patent specification essential and acceptable for characterising the product according to the invention. Although the board drew attention in its communication to the above mentioned discrepancies in the test results, no explanation or correction in this respect was provided by the respondents. Consequently, the test results submitted by the respondents likewise fail to demonstrate distinct differences in the product's properties and therefore cannot confer novelty on the product according to claim 11 either.

6.8 Finally, it must also be remembered that a roasted and ground coffee product, however defined, is not a definite chemical species like, for example, a particular organic compound, but a complex mixture and composition of species depending on many factors, especially the nature, origin and composition of the green coffee beans or even the blend of green coffee beans subjected to the roasting process. It is therefore to be expected that the composition, parameters, characteristics and properties of the claimed roasted coffee product, on the one hand, and those of products according to the state of the art, on the other, **vary so broadly and overlap so considerably** depending on the nature, quality and origin of the green coffee beans used in each particular case that, in the board's opinion, for this reason, too, there can no longer be any question of a definite, distinctly distinguishable, ie new, product, in the absence of any limitation and exact definition of the composition and parameters, ie **standardization**, of the green coffee beans used in the process according to claim 1.

7.1 There is no need in these circumstances to examine whether claim 11 is based on an inventive step. Since a decision can only be taken on a request as a whole, there is likewise no need to look into the patentability of the other claims either.

7.2 Since the patent has to be revoked, there is likewise no need to comply with the auxiliary request of appellants 02 that further evidence regarding the holding quality of the claimed coffee product be taken by an independent expert or institution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar:

P. Martorana

The Chairman:

P. A. M. Lançon

GR