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**Datasheet for the decision
of 16 October 2023**

Case Number: T 0253/20 - 3.3.02

Application Number: 14795630.4

Publication Number: 3066185

IPC: C12C7/22, C12C13/02

Language of the proceedings: EN

Title of invention:

METHOD FOR TREATING A WORT IN A BOILING KETTLE

Patent Proprietor:

Anheuser-Busch InBev S.A.

Opponent:

Heineken Supply Chain B.V.

Headword:

ANHEUSER-BUSCH / WORT TREATMENT BREWING PROCESS

Relevant legal provisions:

EPC Art. 56

RPBA 2020 Art. 13(1), 13(2)

Keyword:

Additional distinguishing feature put forward at oral proceedings

Amendment of the case (yes) - exceptional circumstances (no) - admitted (no)

Inventive step - (no)

Auxiliary request filed after summons - amendment of the case (yes) - exceptional circumstances (no) - admitted (no)

Decisions cited:

T 1023/02, T 1603/13, T 0764/16, T 1152/16, T 2759/17

Catchword:



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Case Number: T 0253/20 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 16 October 2023

Appellant: Heineken Supply Chain B.V.
(Opponent) Tweede Weteringplantsoen 21
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Respondent: Anheuser-Busch InBev S.A.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 22 November
2019 rejecting the opposition filed against
European patent No. 3066185 pursuant to Article
101(2) EPC.**

Composition of the Board:

Chairman M. O. Müller
Members: M. Maremonti
L. Bühler

Summary of Facts and Submissions

I. The appeal lodged by the opponent ("appellant") lies from the opposition division's decision to reject the opposition against European patent No. 3 066 185 ("the patent").

II. Claim 1 as granted reads as follows:

"1. Process for treating a wort in a kettle, said method comprising the steps of:

(a) providing:

- a kettle (1) provided with an inlet (1u) suitable for feeding a wort into the kettle and with an outlet (1d) suitable for flowing the wort out of the kettle,*

- heating means (2) suitable for bringing the wort contained in the kettle close to or at boiling temperature, as well as for controlling said temperature,*

- a gas sparging system (3) suitable for sparging an inert gas into said wort,*

(b) feeding wort from a lautering step into said boiling kettle through the inlet, said wort being at a temperature below its boiling temperature, T_b ;

(c) while sparging an inert gas through the wort, heating said wort to, and maintaining it at a treatment temperature, T_a , which is below the boiling temperature, T_b , of the wort for a duration, t_{treat} , comprised between 15 and 90 min, and no longer than required to evaporate at most 4 wt.% of water initially present in the wort;

(d) *transferring the treated wort to a trub separation step through the outlet.*"

III. An opposition was filed invoking the grounds for opposition under Article 100(a) and (b) EPC. The following documents were referred to, *inter alia*:

D4: US 2007/0154616 A1

D10: Tomohisa Achioku *et al.*, "Development of new boiling technology to improve flavor stability", poster presentation at the World Brewing Congress 2008, August 2 to 6 2008, Hawaii Convention Center, Honolulu, Hawaii, USA

IV. The opposition division came to the following conclusion, *inter alia*:

- Document D10 was not a promising starting point for assessing inventive step.
- Document D4 was the closest prior art and the subject-matter of claim 1 as granted involved an inventive step in view of D4.

V. In its statement of grounds of appeal and subsequent letters, the appellant contested the opposition division's reasoning and argued that the claimed subject-matter lacked an inventive step in view of, *inter alia*, D10 taken as the closest prior art.

VI. In its reply to the statement of grounds of appeal and subsequent letters, the patent proprietor ("respondent") rebutted the appellant's arguments and argued that the claimed subject-matter involved an inventive step.

VII. The parties were summoned to oral proceedings as per their requests. In preparation for the oral proceedings, the board issued a communication under Article 15(1) RPBA 2020. In this communication, the

board expressed, *inter alia*, the preliminary opinion that document D10 was a suitable starting point for assessing inventive step and that the subject-matter of claim 1 as granted did not involve an inventive step starting from D10 as the closest prior art.

VIII. Both parties replied to the board's communication. The respondent also filed an additional set of claims named auxiliary request 1 by letter dated 16 August 2023.

IX. Oral proceedings before the board were held on 16 October 2023 by videoconference in the presence of both parties. During the oral proceedings, the respondent asserted, *inter alia*, that the feature of claim 1 as granted requiring an inert gas to be sparged through the wort was a further distinguishing feature from the disclosure in document D10.

X. Final requests relevant to the decision

The appellant requested that the appealed decision be set aside and that the patent be revoked. It also requested that the respondent's assertion that the feature of claim 1 as granted requiring an inert gas to be sparged through the wort was a further distinguishing feature from the disclosure in document D10 not be admitted into the proceedings. The appellant further requested that auxiliary request 1 filed by letter dated 16 August 2023 not be admitted into the proceedings.

The respondent requested that the appeal be dismissed, i.e. that the patent be maintained as granted (main request). Alternatively, it requested that the patent be maintained in amended form on the basis of the claims of auxiliary request 1 as filed by letter dated 16 August 2023.

XI. As regards the parties' submissions that are relevant for the decision, reference is made to the reasons for the decision set out below.

Reasons for the Decision

Main request - the patent as granted - reading of claim 1

1. A point of dispute between the parties concerned whether or not a step of boiling the wort could be covered by the wording of claim 1 as granted (point II above).
 - 1.1 The appellant argued that, in view of the open language of claim 1: "*said method **comprising** the steps of*" (emphasis added by the board), such a step of boiling the wort was not excluded from claim 1 and might take place either before or after any of the recited steps.
 - 1.2 On the contrary, the respondent submitted that any step of boiling the wort was excluded from the scope of claim 1.
 - 1.2.1 According to the respondent, this reading was already evident from the fact that claim 1 as granted did not recite such a boiling step. Moreover, step (d) of claim 1 began with the feature expressing the transfer of the treated wort to a trub separation step. The use of the term "treated wort" in step (d) was a clear reference to the treatment as defined in step (c), in which the terms "treatment temperature" and " t_{treat} " were used. The skilled person would thus have understood this to mean that the wort that resulted from step (c) was directly transferred to the trub separation step according to step (d). Therefore, there

could be no intermediate boiling step between steps (c) and (d).

- 1.2.2 The respondent further argued that, should the skilled person have had any doubts about the presence of a boiling step, claim 1 would have had to be interpreted in the light of the description according to Article 69(1) EPC. Both paragraphs [0016] and [0017] of the patent made it clear that the wort was not boiled at any point during treatment and actually that step (c) of claim 1 was meant to replace the boiling step used in the prior art. The absence of any boiling step was further confirmed by the examples set out in the patent, in which wort was never boiled.
- 1.2.3 According to the respondent, the statements in paragraphs [0011] and [0026] of the patent merely emphasised once more that boiling wort should be avoided or at most limited to a minority of cases in which some specific requirements were needed. Therefore, these statements did not contradict the general teaching set out in paragraphs [0016] and [0017] of the patent.
- 1.2.4 The respondent acknowledged that claim 2, which stated that the wort was not boiled while residing in the kettle, was a claim dependent on claim 1; however, it denied that the skilled person would have considered claim 2 to confer a repercussive effect on claim 1 in the sense that claim 1 would have been broader than claim 2 by possibly including a boiling step. The respondent submitted that the principle of repercussive effect was not a universal one that was to be applied blindly in all instances regardless of the context of the invention and the disclosure of the patent. In the current case, claim 2 would have been understood as simply having the effect of explicitly emphasising a feature that was already part of claim 1, i.e. that

boiling was not part of the invention claimed.

Therefore, at most the skilled person would have judged claim 2 to be redundant.

1.2.5 The respondent further referred to decisions T 1603/13 and T 1023/02 and argued that the reading of claim 1 as granted was not to be stretched to cover interpretations contrary to the core of the invention, which, in the case at hand, was clearly the replacement of the conventional boiling process with a process in which wort was not boiled at any time.

1.3 The board finds the respondent's arguments unconvincing for the following reasons.

1.3.1 According to step (c) of claim 1 (wording under point II above), the wort is treated in a kettle at a temperature $T_a < T_b$, T_b being the boiling temperature, for a time between 15 and 90 minutes and no longer than required to evaporate at most 4 wt.% of the initial water. According to step (d), the wort that has been subjected to the above treatment is transferred to a trub separation through the outlet in the kettle.

1.3.2 However, as submitted by the appellant, claim 1 does not require the direct transfer of the wort to the trub separation step immediately after said treatment at a temperature $T_a < T_b$. On the contrary, claim 1 states that the process it defines *comprises* the above-mentioned steps. Due to the term "*comprises*", additional treatments of the wort after step (c) are covered by the subject-matter of claim 1. In particular, an additional step of boiling the wort within the kettle after said step (c) and before the transfer step (d) is not excluded from the subject-matter of claim 1 as granted.

- 1.3.3 This reading of claim 1 is confirmed by claim 2 as granted, which is dependent on claim 1 and restricts the subject-matter of claim 1 to a process in which the wort is not boiled during the whole duration of its residence in the kettle.
- 1.3.4 Therefore, contrary to the respondent's view, claims 1 and 2 as granted when read in combination make it clear to the skilled person that the absence of a step of boiling the wort after step (c) is merely an optional feature of the process as defined in claim 1, which, although preferred, is not mandatory.
- 1.3.5 The fact invoked by the respondent that the examples set out in the patent concern methods in which the wort is not boiled at any time cannot change this conclusion since the claims have to be read as such, i.e. without resorting to the description for assessing their scope. Moreover, this fact is in line with the above considerations by the board in the sense that the examples reflect the preferred embodiment of the invention as defined in dependent claim 2.
- 1.3.6 Even considering the description of the patent, the above conclusion by the board is confirmed. In fact, paragraph [0011] of the patent states that "**It is preferred** that even after the treatment period, t_{treat} , the wort never reaches the boiling temperature, T_b , thereof during the whole duration of its residence in said boiling kettle" (emphasis added by the board). Once again, the absence of a boiling step after step (c) of claim 1 is described as being only preferred, i.e. optional, but not mandatory.
- 1.3.7 The same applies when paragraph [0026] is considered. Here, the patent states that "**It is not excluded** to heat the wort at the boiling temperature, T_b , after the treatment time, but in the vast majority of cases it is

not necessary" (emphasis added by the board). This passage confirms that a step of boiling, although not preferred, is covered by the process of the invention.

1.3.8 The passages in paragraphs [0016] and [0017] referred to by the respondent stating that the prior-art boiling processes are advantageously replaced with the process of the invention merely confirm what the preferred embodiment of the invention is; however, in view of the above observations, they cannot restrict the subject-matter of claim 1 as granted.

1.3.9 As regards the case law cited by the respondent, the following is noted.

In the case underlying decision T 1603/13 (points 2.5 and 2.6 of the reasons), the competent board, by assessing the requirement of sufficiency of disclosure, rejected a restricted interpretation of the claimed subject-matter as proposed by the appellant by stating that the *"claims cannot be interpreted in a manner that would contradict the idea of the invention as disclosed in the original application"*.

In the case underlying decision T 1023/02, the competent board stated that *"the skilled person, when considering a claim, should rule out interpretations which are illogical or which do not make technical sense. He should try, with synthetical propensity, i.e. building up rather than tearing down, to arrive at an interpretation of the claim which is technically sensible and takes into account the whole disclosure of the patent. The patent must be construed by a mind willing to understand, not a mind desirous of misunderstanding"* (point 7 of the reasons). The competent board further observed that *"a claim using "comprising" language should generally not be construed as covering subject-matter which includes further steps*

of a nature that would manifestly counteract the specified technical purpose of the step(s) recited in the claim".

- 1.3.10 The above reading of claim 1 as granted is in line with these decisions; namely, this reading is technically sensible since boiling wort is well known in the art and takes into account the whole disclosure of the patent since the inclusion of a step of boiling the wort after step (c) as defined in claim 1 is clearly identified in the description of the patent as a possibility covered by the process of the invention. Moreover, such a boiling step does not counteract the technical purpose of the remaining steps recited in claim 1.

Therefore, the case law cited by the respondent cannot support its case either.

Respondent's assertion that the feature of claim 1 as granted requiring an inert gas to be sparged through the wort is a further distinguishing feature from the disclosure in document D10 - admittance into the proceedings under Article 13(2) RPBA 2020

2. At the oral proceedings before the board and during the discussion of inventive step in view of the Lab Test(1) disclosed in document D10 as the closest prior art (see below), the respondent referred to the abstract of D10, first line, and asserted that while claim 1 as granted required sparging an inert gas *through* the wort, D10 disclosed blowing an inert gas *over* the wort. Therefore, it argued that this represented a further distinguishing feature of the subject-matter of claim 1 as granted from D10.

The appellant requested that this assertion not be admitted into the proceedings according to Article 13(2) RPBA 2020.

3. The respondent argued that the above assertion did not constitute an amendment to its case. In its letter dated 14 August 2019, page 14, lines 25 to 26, the appellant itself had identified the sparging of inert gas through the wort according to claim 1 as granted as a distinguishing feature from D10. This position taken by the appellant had been confirmed by the opposition division in the appealed decision in point 5.2.4 on page 10. Moreover, the respondent had indicated the same difference between the claimed process and the process in D10 on pages 10 to 12 of its reply to the statement of grounds of appeal. Therefore, there had been no amendment to the respondent's case and the assertion made at the oral proceedings should have been admitted.
4. The board disagrees for the following reasons.
 - 4.1 The fact that the appellant indicated in its letter filed before the opposition division on 14 August 2019 (page 14, lines 25 to 26) that a "*difference of claim 1 with D10 may be that D10 describes nitrogen blowing, whereas claim 1 recites sparging*" does not relieve the respondent of its duty to present its **complete case** in its reply to the appeal in accordance with Article 12(3) RPBA 2020.
 - 4.2 In its statement of grounds of appeal, the appellant argued lack of inventive step in view of D10, *inter alia*, as the closest prior art. It submitted, *inter alia*, that D10 also disclosed sparging an inert gas through the wort; see e.g. page 7, lines 7 to 11, and page 9, line 25 to page 10, line 1. Therefore, the appellant did not indicate this feature of claim 1 as granted as a distinguishing feature from D10.
 - 4.3 The respondent referred to pages 10 to 12 of its reply to the appeal. On page 10, under point 3.1, the

respondent stated that *"This analysis clearly forgets that D10 also requires a boiling step of the wort prior to blowing (not sparging) an inert gas onto the boiled wort"*. On page 11, last line, the respondent referred to the pilot plant test in D10 and stated that, according to this process, called WHP, *"inert gas is blown onto the boiled wort"*. On page 12, while discussing Lab Test(1) in D10, the respondent stated that a *"skilled person does not find in this first test (1) any suggestion that blowing gas onto a boiling wort can solve any problem"*.

4.4 The first passage might possibly imply a difference between blowing and sparging, but not necessarily between blowing onto the wort as compared with sparging through the wort, as now alleged by the respondent; however, from the second and third passages, no difference at all can be deduced between blowing onto and sparging through the wort. Moreover, when considering the Lab Test(1) in D10 as possible closest prior art (reply to the appeal, point 3.1.4.1 on pages 13 and 14), the respondent stated that *"D10 describes that boiling wort without blowing any inert gas yields better results than **boiling while sparging an inert gas**"* (emphasis added by the board). Therefore, in this passage, the respondent acknowledged that Lab Test(1) in D10 involved sparging an inert gas, as also defined in claim 1 as granted.

4.5 More importantly, the board concurs with the appellant that, when the respondent indicated, in its reply to the appeal (see the three bullet points under point 3.1.4.2 on page 14), the distinguishing features of the subject-matter of claim 1 from the process disclosed in Lab Test(2) in D10 (see below), it did not identify the sparging of inert gas through the wort as a distinguishing feature. In fact, even if the second

bullet point refers to "*blowing gas thereon*" with respect to the treatment of the wort in this test in D10, it does not indicate this as being a distinguishing feature, but rather that according to D10 the wort is mandatorily boiled prior to being treated with an inert gas.

4.6 Furthermore, in its communication issued under Article 15(1) RPBA 2020 in preparation for the oral proceedings (point 4.2.1), the board also did not indicate the sparging of inert gas through the wort required by claim 1 as granted as a distinguishing feature from Lab Test(1) in D10. In its reply to the board's communication dated 16 August 2023 (see the three bullet points on page 8), the respondent again did not indicate the sparging of inert gas as a distinguishing feature from Lab Test(1) in D10.

4.7 In view of the above considerations, the board concludes that the respondent's assertion that the sparging of inert gas through the wort required by claim 1 as granted represented a distinguishing feature from the process in D10 was made for the first time at the oral proceedings before the board. Therefore, this assertion represents an amendment to the respondent's case.

5. Article 13(2) RPBA 2020 (applicable in view of Article 25 RPBA 2020) stipulates that any amendment to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

5.1 The respondent argued that, even assuming that the above assertion was an amendment to its case, it should have been admitted in view of exceptional

circumstances. A further distinguishing feature from the closest prior art could not be ignored since this would considerably affect the assessment of inventive step. Moreover, D10 had been in the proceedings for a long time. Neither new evidence nor new facts had been introduced. Finally, the assertion made was *prima facie* relevant for inventive step.

- 5.2 The board disagrees. No new facts have been introduced after the filing of the reply to the appeal which may represent exceptional circumstances justifying the above amendment to the respondent's case. The mere fact that D10 has been in the proceedings for a long time or that the above assertion made by the respondent may prove to be *prima facie* relevant for inventive step do not represent exceptional circumstances justifying admittance of the assertion at the latest stage of the appeal proceedings. For this reason alone, the respondent's above assertion should not be admitted.
- 5.3 Additionally, as submitted by the appellant, had this assertion been admitted, there would have had to be a discussion as to whether or not the blowing of inert gas over the wort, as allegedly disclosed in D10, differed from the sparging of inert gas *through* the wort, as mentioned in claim 1 as granted. Should a difference have been identified, there would have had to be a further assessment of what technical effect was derived from this difference. These issues had never been discussed in the appeal prior to the oral proceedings. Hence, the admittance of the above assertion would have also been detrimental to procedural economy (Article 13(1) RPBA 2020).
- 5.4 For these reasons, the board did not admit into the proceedings the respondent's assertion that the feature of claim 1 as granted requiring an inert gas to be

sparged through the wort was a further distinguishing feature from the disclosure in document D10.

Main request - the patent as granted - claim 1 - ground for opposition under Article 100(a) EPC - inventive step under Article 56 EPC

6. Closest prior art

6.1 The parties discussed inventive step *inter alia* when starting from D10 as the closest prior art.

6.2 D10 discloses (abstract) a study on the effect of blowing wort with an inert gas on the evaporation of undesirable aroma compounds, especially dimethyl sulfide (DMS), flavour stability of beer and energy consumption. In particular (see left-hand column, section entitled "Method"), three conditions were investigated, namely blowing under non-boiling conditions, blowing while boiling the wort and blowing after boiling the wort. In the written proceedings, particular reference was made to two embodiments described in D10, which were denoted as Lab Test(1) and Lab Test(2) by the respondent.

6.2.1 According to Lab Test(1) in D10 (left-hand column, section entitled "Method" under "*Effect of blowing conditions on the DMS level in cold wort*"), wort is blown with inert gas in a round boiling vessel for 30 minutes at 95°C before being boiled for further 60 minutes ("*early stage*" experiment according to D10). After boiling, the wort is transferred to a whirlpool, i.e. to a trub separation step.

6.2.2 According to Lab Test(2) in D10 (left-hand column, section entitled "Method" under "*Blowing during boiling and blowing after boiling*"), wort is boiled for 60 minutes and after boiling the wort is blown with inert

gas for 30 minutes. The wort is then transferred to a whirlpool.

6.3 The respondent indicated Lab Test(2) in D10 as suitable closest prior art. It disputed that Lab Test(1) could be selected as the closest prior art. It argued that Lab Test(1) was merely an academic and background study that was not mentioned in the conclusions section of D10. It referred to the results shown in the chart in the second column from the left in D10. This chart showed that the conditions of Lab Test(1), i.e. gas blowing under non-boiling conditions before boiling the wort ("*early stage*" according to D10), resulted in a DMS level after the treatment that was much higher than the control, in which wort was boiled for 90 minutes without any inert gas blowing. Therefore, the respondent argued that Lab Test(1) was not a "*credible best springboard to solve any problem*" and that the skilled person would not have found in Lab Test(1) any "*incentive to modify the conventional wort boiling operation by one including blowing gas during wort boiling*" (reply to the statement of grounds of appeal, point 3.1.4.1 on pages 13 and 14). In other words, the skilled person would not realistically have started from Lab Test(1) in D10. In this respect, the respondent referred to decision T 2759/17, stating that a disclosure within a prior-art document could only be considered to represent a suitable starting point for assessing inventive step if the skilled person would realistically have started from it. This was not the case for Lab Test(1) in D10, which could be selected as a starting point only by applying impermissible hindsight.

6.4 The board finds these arguments unconvincing.

- 6.4.1 The respondent confuses the step of selecting the closest prior art with those of formulating the technical problem and of obviousness. The mere fact that the results of the Lab Test(1) experiment in D10 are worse, e.g. in terms of DMS level, than other experiments disclosed in D10 does not render Lab Test(1) unsuitable as a starting point for assessing inventive step. The authors of D10 themselves started from Lab Test(1) in order to investigate the effect of blowing wort with an inert gas. The *problem* solved by these experiments is not relevant when the selection of the closest prior art is to be considered. Whether or not the skilled person would have found an *incentive* in these experiments to modify the conventional operation of boiling the wort is also irrelevant in this respect.
- 6.4.2 D10 (abstract) aims to develop a brewing process in which flavour stability of beer is improved and energy is saved. These aims are also shared by the patent; see e.g. paragraphs [0001], [0008] and [0009]. Therefore, the board holds that any of the embodiments disclosed in D10, especially Lab Test(1), too, may serve as a starting point for the assessment of inventive step.
- 6.4.3 This conclusion does not contradict the case law invoked by the respondent. In fact, in the case underlying T 2759/17, the competent board stated (point 5.3 of the reasons) that "*the "closest prior art" is not a document but a piece of information or technical teaching. Therefore, where the same document discloses a number of different technical teachings, each of them represents a potential starting point against which the inventive character of the invention may be assessed*". This statement is in line with the present case, in which, as mentioned above, any embodiment of D10 can be used as the closest prior art.

The board competent in T 2759/17 further held (point 5.6.1 of the reasons) that, in the assessment of inventive step, the starting point should be selected with due consideration of whether a prior-art disclosure aims at the same or a similar purpose or effect as that underlying the patent in question. In the case at issue in T 2759/17, the board regarded certain embodiments of a document as not being suitable as the closest prior art because they were not aiming at the same or a similar purpose or effect (suppressing biofilm formation and removing an already-formed biofilm) as the invention claimed; however, this rationale does not apply to the current case, in which, as set out above, all the embodiments of D10 are directed to investigating the effect of wort being blown with inert gas under various conditions. Therefore, the skilled person would realistically have started from any of the disclosed embodiments.

7. Distinguishing features

7.1 The respondent argued that the subject-matter of claim 1 as granted differed from Lab Test(1) in D10 in that

- the wort is not heated to its boiling point,
- the wort is fed from a lautering step, and
- the amount of water initially present in the wort which evaporates in step (c) is at most 4%.

As regards the last distinguishing feature, the respondent referred to the left-hand column of D10, indicating a higher evaporation amount of 13.3%.

In the written proceedings, the respondent had argued that the claimed process was further distinguished from D10 in that the experiments in D10 were carried out in a laboratory-scale round boiling vessel without any

pipng connection from an upstream lautering step and to downstream trub separation step; however, in the communication issued in preparation for the oral proceedings, the board had noted that no *pipng connection* was mentioned in claim 1, which merely requires "*feeding wort*" into the boiling vessel and "*transferring the treated wort to a trub separation step*". Such *feeding* and *transferring* also belonged to Lab Test(1) in D10. Moreover, the board considered that the term *boiling kettle* as used in step (b) of claim 1 also covered the round boiling vessel used in Lab Test(1) in D10. At the oral proceedings, the respondent no longer relied on these distinguishing features.

7.2 With respect to the three above-mentioned distinguishing features relied on by the respondent, the board notes that, as stated above, a step of boiling the wort after step (c) of claim 1 is not excluded from claim 1. Therefore, the first distinguishing feature indicated by the respondent cannot be accepted. As regards the percentage of water evaporation during blowing the wort with inert gas for 30 minutes in Lab Test(1) in D10, this is not set out in D10. In fact, contrary to the respondent's view, the amount of water evaporation of 13.3% set out in D10 (*loc. cit.*) refers, as put forward by the appellant, to Lab Test(2) and not Lab Test(1) in D10. Moreover, this amount is disclosed in D10 for a boiling step of 60 minutes without any gas blowing. Therefore, this value is not relevant for establishing the distinguishing features of claim 1 from Lab Test(1) in D10.

7.3 The board further notes that examples 1 and 2 of the patent indicate water evaporation of 2.8% and 1.5%, respectively (pages 7 and 9, tables 1 and 2, first row) when the wort was sparged with nitrogen gas for 60 minutes at 98.5°C. In view of these results, it could

be assumed that the feature of claim 1 requiring at most 4% water evaporation is implicitly fulfilled in Lab Test(1) in D10 since temperature (95°C) and blowing time (30 minutes) would imply less evaporation compared with examples 1 and 2 of the patent; however, in the respondent's favour, in the following the board will consider the feature of claim 1 requiring at most 4% water evaporation in step (c) as a distinguishing feature. Therefore, claim 1 as granted is distinguished from Lab Test(1) in D10 in that:

- the wort is fed from a lautering step, and
- the amount of water initially present in the wort which evaporates in step (c) is at most 4%.

8. Objective technical problem

8.1 The respondent did not rely on feeding the wort to the boiling vessel from a lautering step for establishing an inventive step; however, it argued that the amount of water evaporation restricted to at most 4% made it possible to save more energy and to improve the DMS removal over the process in Lab Test(1) in D10. This improvement in terms of DMS removal was derivable from the comparison between figure 6 of the patent and the chart in the second column from the left in D10, which has been referred to above. Figure 6 of the patent showed that the process of the invention made it possible to reduce the DMS to the same level as the control after only 60 minutes of treatment of the wort below the boiling temperature. On the contrary, Lab Test(1) in D10, in particular the results on the right-hand side of said chart as obtained for the *early stage* blowing, demonstrated that even after 90 minutes, of which 30 minutes were at a temperature below the boiling point and 60 minutes were at the boiling point, the level of DMS was still much higher than the

control. On this basis, the respondent formulated the objective technical problem as that of providing an improved method of treating the wort in terms of energy saving and DMS removal.

8.2 The board disagrees with this for the following reasons.

8.2.1 No comparison has been made in terms of energy consumption between the process in claim 1 and the process in Lab Test(1) in D10. In fact, any technical effect relying on the absence of a boiling step in claim 1 cannot be accepted since, as mentioned above, such a boiling step after step (c) is not excluded from claim 1. For this reason, the limitation to 4% water evaporation in step (c) is not linked to any technical effect, either, since step (c) could be followed by a boiling step in which an indefinite additional amount of water is evaporated. Therefore, an improvement in the claimed process over Lab Test(1) in D10 as regards energy saving has to be denied.

8.2.2 As regards the alleged improvement in terms of DMS removal, the board concurs with the appellant that the results in figure 6 of the patent and those in the chart in D10 referred to by the respondent are not comparable.

In fact, in figure 6 of the patent, the experiment according to claim 1 (black circles) and the control (white circles) do not start from the same level of DMS, which is 38 ppb for the experiment according to claim 1 and 59 ppb for the control (see paragraph [0038] of the patent). This is explained in the patent by the fact that, in the experiment according to claim 1 as depicted in figure 6, the wort is already sparged with inert gas during the stage of heating up the wort to the treatment temperature. During this preheating

time, DMS is already actively removed (see figure 2 in combination with paragraph [0038] of the patent). This is not the case in Lab Test(1) in D10. If the results set out in figure 6 for the experiment according to claim 1 were shifted upwards so to start from the same DMS level as the control, after 60 minutes this would result in a level of DMS that is higher than the control, similarly to what is indicated in the chart in D10 referred to by the respondent.

Moreover, as noted by the appellant, the conditions used in the experiment according to claim 1 as depicted in figure 6 are substantially different from those of Lab Test(1) in D10. In particular, a higher temperature (98.5°C vs. 95°C) during the treatment with inert gas and a longer sparging time (60 minutes vs. 30 minutes) have been used (see also paragraph [0033] of the patent).

Therefore, any improvement in the claimed process in terms of DMS removal over Lab Test(1) in D10 has to be denied.

- 8.3 It follows that the board concurs with the appellant that the objective technical problem is merely that of providing an alternative process.
9. Obviousness of the claimed solution
- 9.1 As mentioned above, Lab Test(1) in D10 already discloses blowing wort with an inert gas at a temperature below the boiling point before a step of boiling the wort, i.e. in accordance with the reading of claim 1 as granted set out above. When starting from this disclosure, the skilled person would have recognised that the feature of claim 1 requiring the wort fed to the boiling vessel to come from a lautering step is conventional and is part of any brewing process. No inventive step can thus derive from this

distinguishing feature of claim 1. An inventive step based on this feature has not been put forward by the respondent, either.

Moreover, for the reasons explained above, the skilled person would have also regarded the limitation to 4% water evaporation in step (c) of claim 1 as purely arbitrary and, in any case, as a possibility covered by the teaching of Lab Test(1) in D10 given the conditions used in terms of temperature (95°C) and blowing time (30 minutes).

- 9.2 The respondent argued that D10 disclosed that boiling the wort was necessary and advantageously had to take place before blowing, which meant before step (c) of claim 1. Such a boiling step before step (c) was excluded according to the wording of claim 1. Therefore, D10 provided teaching leading away from the present invention.
- 9.3 Even assuming, in the respondent's favour, that a boiling step before step (c) was excluded from claim 1, the board disagrees with the respondent's line of argument. As set out above, the objective technical problem is merely that of providing an alternative process. It does not include obtaining any advantages. Hence, the fact that a process different from that in claim 1, namely in which boiling takes place before blowing, is disclosed in D10 to imply certain advantages is irrelevant.
- 9.4 Therefore, the board concludes that the subject-matter of claim 1 as granted does not involve an inventive step in view of D10 taken as the closest prior art (Article 56 EPC).
- 9.5 It follows that the ground for opposition under Article 100(a) EPC prejudices the maintenance of the patent as granted. The main request is not allowable.

Auxiliary request 1 - admittance into the proceedings

10. Auxiliary request 1 was filed by the respondent by letter dated 16 August 2023, i.e. two months prior to oral proceedings before the board. In comparison with claim 1 as granted, claim 1 of auxiliary request 1 includes the following additional feature at the end of the claim:

"wherein the wort does not reach the boiling temperature, T_b , thereof during the whole duration of its residence in said boiling kettle".

10.1 The appellant requested that auxiliary request 1 not be admitted into the proceedings under Article 13(2) RPBA 2020.

10.2 The respondent argued that auxiliary request 1 did not constitute an amendment to its appeal case. Claim 1 of auxiliary request 1 was identical to claim 2 as granted and made it explicit that boiling the wort was excluded from the claimed subject-matter. This subject-matter corresponded to the interpretation of claim 1 as granted as applied by the opposition division. In other words, the subject-matter defined in auxiliary request 1 was the same as that on which the appealed decision was based. Moreover, the respondent's case throughout the appeal proceedings had been based on the exclusion of a step of boiling the wort from the claimed process, i.e. on the subject-matter of auxiliary request 1. The respondent further referred to decision T 1152/16. In that case, an auxiliary request filed during the oral proceedings had been admitted by the board since it did not represent an amendment to the patent proprietor's case because no new aspects had to be discussed. This also applied to the current case since, as stated above, the appealed decision was based on the subject-matter of auxiliary request 1, which might not be

surprising to the appellant. No new aspects had to be discussed. Moreover, the amendment contained in claim 1 of auxiliary request 1 resolved *prima facie* the inventive-step objection raised by the appellant and the board in its communication under Article 15(1) RPBA 2020. Since the respondent's case had not been amended, it was not at the board's discretion not to admit auxiliary request 1.

10.3 The board disagrees for the following reasons.

10.3.1 Whether or not a party's submission made at a late stage of the appeal proceedings is an amendment to the party's case within the meaning of Article 13(1) and (2) RPBA 2020 has to be established by comparing the late submission with the statement of grounds of appeal or the reply to this. In fact, the parties have to present their **complete case** in the statement of grounds of appeal and the reply to this; see Article 12(3) RPBA 2020.

10.3.2 Auxiliary request 1 was not filed with the reply to the statement of grounds of appeal, but was only filed two months prior to the oral proceedings before the board. Therefore, until that point in time, the appellant and the board trusted that the respondent relied only on its interpretation of claim 1 as granted for the exclusion of a boiling step from the claimed subject-matter, and not on an amendment to the claims.

10.3.3 Moreover, contrary to the respondent's view, the exclusion of boiling the wort within the kettle (see above wording of claim 1 of auxiliary request 1) raises new aspects which would have had to be discussed had auxiliary request 1 been admitted. In fact, as submitted by the appellant, it would have had to be assessed whether boiling the wort outside the kettle, especially after step (d) of claim 1, is covered by the

process in claim 1 of auxiliary request 1. Moreover, different closest prior art would possibly have had to be considered, in which, contrary to D10 as discussed above for the main request, boiling the wort would not have represented the focus of the brewing process.

- 10.3.4 For this reason, the rationale developed in decision T 1152/16, according to which (point 7 of the reasons) the admittance of the auxiliary request filed at the oral proceedings before the competent board did not make it necessary to discuss new aspects, is not applicable to the case at hand either.
- 10.4 In view of the above considerations, the board concludes that auxiliary request 1 does represent an amendment to the respondent's case filed only two months prior to the oral proceedings before the board.
- 10.5 Article 13(2) RPBA 2020 stipulates that any amendment to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
- 10.6 The respondent argued that, even assuming that auxiliary request 1 was an amendment to its case, it should have been admitted in view of exceptional circumstances. It submitted that the allegation that claim 1 as granted might comprise a boiling step had not been raised by the appellant in the notice of opposition, but only two months prior to the oral proceedings before the opposition division. Therefore, the first opportunity for the respondent to reply was at the oral proceedings; however, this reply was not needed because the opposition division followed the interpretation of claim 1 as granted as proposed by the respondent. The same allegation was reiterated by the

appellant in the statement of grounds of appeal; however, in view of the interpretation of claim 1 as granted given by the opposition division, it was not appropriate for the respondent to file any auxiliary request with the reply to the appeal. The board's provisional opinion was the first time that the EPO adopted a new interpretation of claim 1 as granted. Therefore, the reply to the board's communication dated 16 August 2023 was the first time that it was appropriate for the respondent to file auxiliary request 1. In view of these exceptional circumstances, auxiliary request 1 should have been admitted.

- 10.7 The board disagrees and concurs with the appellant that the parties have to be responsive to one another, not just to the EPO. The interpretation of claim 1 as granted not excluding a step of boiling the wort had been presented by the appellant within the time limit set by the opposition division under Rule 116(1) EPC. At any time after that, auxiliary request 1 could have been filed to respond to this interpretation. In particular, since this interpretation of claim 1 as granted had been reiterated in the statement of grounds of appeal, auxiliary request 1 should have been filed with the reply to the appeal at the latest. The respondent decided not to do so and to instead rely on its interpretation of claim 1 as granted. The mere fact that, in its communication issued under Article 15(1) RPBA 2020, the board followed the interpretation of claim 1 as granted as proposed by the appellant cannot represent an exceptional circumstance justifying the filing of auxiliary request 1 only two months prior to the oral proceedings before the board. In fact, in *inter partes* proceedings, a party should always consider the possibility that the board may follow the submissions by the adverse party and should respond to those submissions in a timely manner without first

waiting for the board's preliminary opinion (see e.g. T 764/16, point 3.3.2 of the reasons).

10.8 It is further noted that, as set out above, had auxiliary request 1 been admitted, new aspects which had never been dealt with before would have had to be addressed at the latest stage in the appeal proceedings. The admittance of auxiliary request 1 would thus have also been detrimental to procedural economy (Article 13(1) RPBA 2020).

10.9 For these reasons, pursuant to Article 13(1) and (2) RPBA 2020, the board decided not to admit auxiliary request 1 filed on 16 August 2023 into the proceedings.

Conclusion

11. None of the respondent's claim requests is admissible and allowable.

Order

For these reasons it is decided that:

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

The Registrar:

The Chairman:



M. Schalow

M. O. Müller

Decision electronically authenticated