

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 3 July 2020**

Case Number: T 1412/17 - 3.2.04

Application Number: 11727180.9

Publication Number: 2592981

IPC: A47J31/54

Language of the proceedings: EN

Title of invention:

ADVANCED HEATING DEVICE

Patent Proprietor:

Société des Produits Nestlé S.A.

Opponent:

Krüger GmbH & Co. KG

Headword:

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

Novelty - Main request (no)

Inventive step - auxiliary request (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1412/17 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 3 July 2020

Appellant: Société des Produits Nestlé S.A.
(Patent Proprietor) Entre-deux-Villes
1800 Vevey (CH)

Representative: Kiwit, Benedikt
Mitscherlich PartmbB
Patent- und Rechtsanwälte
Postfach 33 06 09
80066 München (DE)

Appellant: Krüger GmbH & Co. KG
(Opponent) Senefelderstr. 44
51469 BERGISCH GLADBACH (DE)

Representative: Loock, Jan Pieter
Kutzenberger Wolff & Partner
Waidmarkt 11
50676 Köln (DE)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
12 April 2017 concerning maintenance of the
European Patent No. 2592981 in amended form.**

Composition of the Board:

Chairman A. de Vries
Members: J. Wright
T. Bokor

Summary of Facts and Submissions

- I. The appeals were filed by the appellant (proprietor) and appellant (opponent) against the interlocutory decision of the opposition division finding that, on the basis of the auxiliary request 1, the patent in suit (in the following "the patent") met the requirements of the EPC.

In particular, the opposition division decided that the subject-matter of this request was novel and involved an inventive step.

The opposition division also decided that the subject-matter of claim 1 of the main request (as granted) was not novel.

- II. Oral proceedings before the Board were held on 3 July 2020.
- III. The appellant opponent requests that the decision under appeal be set aside and that European patent No. 2 592 981 be revoked.

The appellant patent proprietor requests that the decision under appeal be set aside, and the patent be upheld as granted, as main request, or at least that the appeal of the opponent be dismissed, i.e. that the patent be maintained in an amended form on the basis of the Auxiliary Request I filed with letter dated 14 February 2017 and held allowable by the Opposition Division, or alternatively that the patent be maintained in an amended form on the basis of one of the Auxiliary Requests II, III, III', IV, IV', V, V', VI or VII filed with the grounds of appeal dated 2

August 2017, partly re-filing earlier requests, or on the basis of the Auxiliary Requests VIII or IX filed with letter dated 28 November 2017 .

IV. The independent claims relevant for this decision are as follows:

Main request, claim 1:

"A beverage preparation machine comprising:

- a heater (1) for heating up a supply of liquid from a supply temperature to a beverage preparation temperature, in particular an in-line heater and/or a heat accumulation structure such as a thermoblock; and
- a control unit (2) for controlling said supply of liquid and the heater so that the heater is energised to reach and be maintained at an operative temperature for heating up said supply of liquid to the beverage preparation temperature during beverage preparation, characterised in that the control unit is arranged so that the heater is energised to reach and be maintained at a reduced temperature out of beverage preparation".

Main request, claim 15:

"A method of transforming an existing beverage

preparation machine into a machine according to any preceding claim, the existing machine comprising:

- a heater for heating up a supply of liquid from a supply temperature to a beverage preparation temperature, in particular an in-line heater and/or a heat accumulation structure such as a thermoblock; and
- a control unit for controlling said supply of liquid and the heater so that the heater is energised to reach and be maintained at an operative temperature for heating up said supply of liquid to the beverage

preparation temperature during beverage preparation, such method being characterising in that the control unit is so modified in particular reprogrammed, that during use the heater is energised to reach and be maintained at a reduced temperature out of beverage preparation".

Claim 1 of the first auxiliary request reads as claim 1 of the main request except that the first bullet point feature is amended as follows (with deleted and added features emphasised by the Board in strike-through and underline respectively):

"- a heater for heating up a supply of liquid from a supply temperature to a beverage preparation temperature, ~~in particular~~ the heater (1) being an in-line heater and/or a heat accumulation structure such as a thermoblock;"

Claim 15 of the first auxiliary request reads as claim 15 of the main request except that the first bullet point feature is amended as follows (emphasis again added by the Board):

"- a heater for heating up a supply of liquid circulating along a heating duct from a supply temperature to a beverage preparation temperature, ~~in particular~~ the heater being an in-line heater and/or a heat accumulation structure such as a thermoblock;"

V. In the present decision, reference is made to the following documents:

E1: WO 2005/058747 A2

E2: GB 2409197 A

VI. The appellant-proprietor's arguments can be summarised as follows:

Main request:

The term "supply of liquid" in claim 1 should be interpreted narrowly to mean a flow, rather than a stock of liquid. Considering this and various other claim features, E1, which mainly concerns heating a stock of water in a tank or tanks, does not take away novelty of claim 1.

First auxiliary request:

E1 discloses a through-flow heater as claimed in the form of a "hot-block", but it is not disclosed that it is energised to operate at a reduced temperature out of beverage preparation. Therefore E1 does not take away novelty of claim 1.

Considering E1's embodiment as shown in figure 2, the smaller tank 14 (which operates at a reduced temperature out of beverage preparation) is not a fast-heater 'small tank' as discussed in the general part of E1's description. Therefore, even if a fast-heater hot-block is an obvious substitute for a fast-heater 'small tank', and could be controlled in the same way, making such a substitution would not lead to a through-flow heater energised at a reduced temperature out of beverage preparation. Therefore, the subject-matter of claim 1 involves an inventive step.

VII. The appellant-opponent's arguments can be summarised as follows:

Main request

The term "supply of liquid" in claim 1 is to be read broadly as a stock of liquid or a flow of liquid. Read thus, the subject-matter of claim 1 lacks novelty with respect to E1.

First auxiliary request:

The subject-matter of claim 1 lacks novelty because E1 discloses a fast heating "hot-block" as an alternative to a small tank, which elsewhere in E1 is disclosed to operate at a reduced temperature out of beverage preparation.

Even if it were considered that this latter feature were not known from the general description, the embodiment of figure 2 discloses a fast-heating 'small tank' which is controlled to operate at a reduced temperature out of beverage preparation. This fast-heater 'small tank' is presented as an alternative to a through-flow hot-block. Exchanging the fast heater small tank shown in figure 2 for a hot-block, and controlling it in the same way would be obvious, so the subject-matter of claim 1 lacks an inventive step in light of a combination of E1 and the skilled person's general knowledge.

Reasons for the Decision

1. The appeals are admissible.
2. Background

The invention concerns (see published patent specification, claim 1) a beverage preparation machine comprising, amongst other things, a heater for heating

up a supply of liquid from a supply temperature to a beverage preparation temperature.

It is known to have the heater running permanently at the operating temperature, also whilst no drink is being prepared, to reduce waiting time compared to turning it off in between requests to prepare a drink. This, however, consumes a lot of energy (see published patent specification, paragraph [0010]).

The patent proposes (see published patent specification, paragraph [0019] and claim 1) to solve this problem by energising the heater at a reduced temperature out of beverage preparation.

3. Main request (as granted), claim 1, novelty with respect to E1

3.1 Interpretation of the feature "supply of liquid" in claim 1 of the main request

The interpretation of this feature, in particular the meaning of the term "supply", appears decisive in assessing the independent claims for novelty. The Board therefore finds it expedient to first consider how the skilled person would interpret it.

3.1.1 It is not disputed that a "supply of liquid", read in isolation, can mean firstly a stock of liquid and secondly a flow of liquid, i.e. liquid actually being supplied for the beverage being prepared.

3.1.2 The appellant-proprietor has argued that, read in the context of claim 1, the feature (supply) cannot have its first meaning (stock), but must be interpreted

narrowly as being limited to its second meaning (flow). The Board disagrees.

3.1.3 Contrary to how the appellant-proprietor has argued, the Board considers that a control unit is capable of *controlling* a stock of liquid. For example the temperature of a stock of liquid can be controlled. Indeed, according to the claim, controlling the temperature of the supply of liquid, and not its speed of flow, seems to be what the (perhaps not ideally worded) second bullet point of claim 1 defines when it introduces the control unit as being "for controlling said supply of liquid and the heater [...] for heating up said supply of liquid to the beverage preparation temperature during beverage preparation".

3.1.4 Moreover, the Board does not agree with the appellant-proprietor's contention that only a flow of liquid, but not a stock of liquid, can be heated up "during beverage preparation".

According to this argument, during beverage preparation from a stock of liquid, the stock must be drawn upon and, if it were only to be heated in this period, at least the first part of the beverage to flow into the cup would be prepared with inadequately heated liquid. Therefore, so the argument goes, the claimed liquid supply cannot be a stock.

3.1.5 In this regard, the Board considers that the skilled person would understand "beverage preparation" not merely as the action of a beverage entering a cup but also the actions needed to prime the machine to arrive at this action. The patent (see published patent specification, claim 9 and paragraph [0038]) confirms this, with beverage preparation starting when a user

requests a beverage (not when liquid first enters a cup). A stock of liquid can be entirely heated to a suitable beverage preparation temperature after a drink is requested but before it enters a cup. In this case the stock of liquid would be heated "during beverage preparation" as claimed.

- 3.1.6 From the above, the Board concludes that the features of claim 1 do not exclude the interpretation of the claim term "supply of liquid" being a stock of liquid. Therefore, the Board interprets the term in its usual broad sense to mean either a flow or a stock of liquid.
- 3.2 E1 discloses a beverage preparation machine (see abstract). Considering in particular the embodiment shown in figure 2, the machine comprises (see for example page 10, lines 5 to 6) a heating element 18 of a small tank 14, thus the machine has a heater. As already explained, in claim 1, the supply of liquid may be a stock of liquid.
- 3.3 E1 also discloses (see page 10, line 23 to page 11, line 1) that the heater is arranged for heating up just such a supply of liquid, namely the stock of liquid in the small tank 14 from a supply temperature to a beverage preparation temperature.
- 3.4 E1 likewise discloses (see page 10, lines 10 and 11 and 19 to 26 with figure 2) a control unit 34 that controls the supply (namely the temperature of the stock of liquid in tank 14), and the heater with its heating element 18 to reach and maintain a suitable operative temperature for the liquid to be heated to the beverage preparation temperature during preparation.

3.5 Although it is true that E1 discloses certain periods where different power modes are adopted according to predicted demand (see page 2, lines 13 to 24), it also discloses (see E1, page 10, line 31 to page 11, line 1, cf. published patent specification, paragraph [0038] and claim 9) that E1's control system in those power modes controls the supply to reach brewing temperature when a beverage making instruction is received, this being the start of beverage preparation. Therefore, the Board considers E1 to disclose that the operative temperature is reached and maintained for heating up the supply to the beverage preparation temperature *during beverage preparation* as claimed.

3.6 Claim 1 also requires (see the characterising feature) that *the control unit is arranged so that the heater is energised to reach and be maintained at a reduced temperature out of beverage preparation.*

3.7 In the Board's view, this feature merely means that the control unit must be capable of energising the heater in such a lower temperature mode when a beverage is not being prepared, and not that whenever a beverage is not being prepared, the control unit will *always* control the apparatus in this way as the appellant-proprietor has argued.

Nothing in the claim wording itself suggests that this is the *only* way the control unit can operate, the feature (expressed as the control unit being *for* so controlling) merely requires the control unit to be suitable for so doing.

Nor is the appellant-proprietor's interpretation of the feature supported by the rest of the patent: for example claim 11 implies that the reduced temperature

mode is not initiated as long as there is an ingredient in the mixing/brewing arrangement (which may be prior to beverage preparation starting), similarly claim 14 explains that the lower temperature mode is not applied when the machine is on but in a standby mode and the description (see published patent specification, paragraph [0037]) suggests that the user can deselect the lower temperature mode.

- 3.8 In E1's machine (see page 10, lines 23 to page 11, line 1 with figure 2), the heater, in a low power mode, is not energised out of beverage preparation and just heats water to a beverage brewing temperature during beverage preparation. However, the machine (see page 11, lines 1 to 12) can also operate in modes intermediate the low and high power modes. In these intermediate power modes, the heater is energised and maintains the stock of water in the tank 14 at a temperature intermediate the preparation temperature and ambient temperature. In these intermediate power modes where the water is heated to and maintained at a lower temperature than in the high power mode, the temperature of the heating unit - either the small tank 14 together with its heating element 18 or the heating element itself - is necessarily lower than when the water is heated to and held at the beverage preparation temperature.

Therefore, when E1's machine operates in an intermediate power mode, the control unit energises the heater to reach and maintain a reduced temperature, whether of the water or of the heating element itself, out of beverage preparation.

3.9 From all of the above, the Board concludes that E1 discloses all the features of claim 1, rendering claim 1 not novel. Therefore, the main request must fail.

4. First auxiliary request, claim 1, novelty with respect to E1

4.1 Claim 1 makes mandatory those types of heater which are detailed in the main request only as exemplary (in-line and/or heat accumulation structure). It is not in dispute that these are heaters which are primarily designed to heat a fluid supply in the sense of a fluid flow (rather than a stock).

Turning to E1, this means that the embodiment as shown in figure 2 with its two water supply (stock) tanks 14 and 12 heated by respective heating elements 18 and 16, does not take away novelty of claim 1.

4.2 However, the general description of E1 (page 4, line 27 to page 5, line 10) explains that, in certain embodiments having one or more tanks, the water supply apparatus may further comprise a fast water heating device such as a hot-block with a through channel. It is common ground that such a hot-block is a heater of the in-line/heat accumulation structure type as claim 1 now requires.

Certainly this hot-block heater can be controlled by the control unit to heat a supply of water to the beverage preparation temperature during beverage preparation (see page 5, lines 6 to 10).

4.3 Therefore, the question of novelty hinges on whether the control unit also controls the hot-block heater to

reach and be maintained at a reduced temperature out of beverage preparation.

It is not in dispute that on page 5 it is not explicitly said that the hot-block heater can operate at such a reduced temperature. This passage, which is the sole passage to mention a hot-block heater, is silent as to whether or not it operates out of beverage preparation. At most, it is said that it heats water 'on demand' when *the system* (not the hot-block itself) is in a lower power mode.

4.4 However, the appellant-opponent has pointed out that E1's general description (see page 1, line 20 to page 2, line 2), having first introduced the idea of the beverage preparation machine having a "water supply apparatus" with a water heater operating in a plurality of power modes, explains that these power modes (see page 3, lines 12 to 17) can be intermediate power modes. Moreover, where (page 5, first 6 lines) the hot-block is said to be used 'on demand' when the system is in a lower power mode, this is in reference to the intermediate lower power modes. Therefore, so the argument goes, E1 discloses the hot block heater to operate at a reduced temperature as claimed.

4.5 The Board agrees with the appellant-opponent that the use of the indefinite article in the wording "a lower power mode" (E1, page 5, line 3) may well mean that the hot-block heats on demand when the system is in an intermediate power mode.

However, as this general part of the description explains (page 4, last paragraph), the water supply apparatus has at least one tank. Water in a tank is said to only be maintained at a beverage brewing

temperature when the system is in the highest power mode. In the absence of any disclosure that all parts of the water supply apparatus operate at a reduced temperature in a lower (intermediate) power mode, it might be that in those embodiments additionally including a hot-block heater as fast heater only the heater in the relevant tank maintains a reduced temperature out of beverage preparation (intermediate power mode), and the hot-block might be turned off.

Nor, in the Board's view, would the skilled person reject this possibility as illogical. Such a system, supplying water pre-heated in a tank to an intermediate temperature to an (initially de-energised) hot-block for heating on demand to the brewing temperature would provide a drink faster than if the water had not been pre-heated, as most likely the hot-block could be heated to the appropriate working temperature significantly faster than the water in a water tank, even where the tank is relatively small. Therefore the heating time of the hot-block would be seen as an acceptable delay before a beverage could be prepared. The water could be circulated to the hot-block only when the latter has already reached its operating temperature, and therefore it would also not cool down the pre-heated water arriving from the water tank.

Consequently, there is no direct and unambiguous disclosure of the hot-block (with its supply in the form of a flow of liquid) being operable at a reduced temperature out of beverage preparation. Thus, E1 does not disclose the characterising feature of claim 1 (reduced temperature out of beverage preparation for an in-line/heat accumulation type heater).

Therefore, E1 does not take away novelty of claim 1.

5. First auxiliary request, claim 1, inventive step over E1 and the skilled person's general knowledge

5.1 The appellant-opponent has argued that in E1's figure 2 embodiment, the small tank 14 (with its intermediate power modes) is the small tank of the fast water heating device described on page 5, first paragraph.

Since the latter (fast heater) small tank is merely an alternative to a through-flow hot block heater (cf. page 5, lines 4 to 6) the skilled person would replace the small tank 14 with a hot-block and, as a matter of obviousness, apply the same control with intermediate power modes described for the tank 14 of figure 2, and thus arrive at the subject-matter of claim 1.

5.2 The central plank of this argument is that E1 directly and unambiguously discloses the small tank 14 shown in figure 2 as the second of the alternative fast heaters described on page 5, first paragraph. The Board is of a different opinion.

5.3 As already touched upon, E1 explains (see page 4, last paragraph) that certain embodiments have one or more water tanks (as indeed is the case for the embodiment of figure 2, with its two tanks 14 and 12). Following this, E1 states (see page 5, first paragraph) that "in this and other embodiments the water supply apparatus may further comprise at least one fast heating ... device", such as a hot-block or a small tank with suitable heating means, to supply water at the beverage temperature 'on demand'.

5.4 Whilst it may well be that this statement generally applies also to the embodiment of figure 2, there is

certainly no specific reference to figure 2, much less how such a fast heater *hot block* or *small tank* might be incorporated into the figure 2 arrangement. At most, the wording "in this and other embodiments" in conjunction with "may further comprise" rather suggests that whatever fast heating device (hot block or small tank) is to be used, it should be additional to the arrangement of a particular embodiment. In the case of figure 2, this would mean it was *additional* to the small tank 14, rather than its replacement as the appellant-opponent has argued it must be (cf. page 10, lines 1 to 3: in alternative embodiments there could be *more tanks*).

- 5.5 In this regard, the appellant-opponent has argued that the wording "small tank", which first occurs on page 5 and is used again in describing the embodiment of figure 2 (see for example page 9, last paragraph) means that the small tank 14 of figure 2 must be the fast heating tank described on page 5. In the Board's view, this is not unambiguously true. The mere wording of a feature in a patent document does not mean that it is always the same wherever it is employed. Taking E1 as an example, the large tank 12 of figure 2 is not the same as the large tank 40 of figure 3 (cf. page 11, line 30) or the large tank 62 of figure 4 (cf. page 12, line 32).

The appellant's interpretation also does not find support in the claims. Claim 9, which introduces a main tank and one or more smaller tanks, does not refer specifically to preceding claim 8 concerning the further feature of the (unspecific) fast water heating device. Claim 14 on the other hand only mentions intermediate ambient temperatures in relation to tanks or volumes, which is entirely consistent with the

embodiments of the detailed description, cf. figures 2 to 4.

5.6 Moreover, in the present case (see page 5, last sentence), the fast heating element (for example small tank) should preferably only heat the volume of water needed to prepare a beverage, in other words one beverage portion. However, in the description of the figure 2 embodiment (see page 9, last paragraph), the small tank 14 should contain water for two beverage portions. This discrepancy casts further doubt on the premise that the small tank of figure 2 and that of the fast heater described on page 5 *must be* one and the same.

5.7 From the above, the Board considers that there is no direct and unambiguous disclosure in E1 that the small tank 14 of figure 2 is the second of the alternative fast heating devices (hot-block / small tank) described on page 5, first paragraph. A consequence of this conclusion is that E1 does not disclose an 'on demand' fast heating small tank (see page 5) that operates in an intermediate power mode (maintained at a reduced temperature out of beverage preparation).

E1 itself therefore does not provide a clear suggestion or hint that these same small tanks are the fast heaters that can also be a hot-block heater. The only direct and unambiguous disclosure concerning intermediate temperatures is in relation to the water held in the tanks (main and small), page 11, first paragraph and figure 2; or in different volumes of single tank, page 12, 3rd paragraph and figure 3. The Board sees no motivation for the skilled person to apply this clear and unequivocal teaching of maintaining water in tanks or volumes at an

intermediate temperature between ambient and preparation temperatures to a hot-block heater.

Nor has the appellant-opponent provided any evidence to demonstrate that it would be routine or common general knowledge to operate or energize in-line and/or heat accumulation structure (through-flow) heaters for beverage preparation at a reduced temperature when not used for beverage preparation.

5.8 Therefore, the Board is of the opinion that the combination of E1 with the skilled person's general knowledge does not take away inventive step of claim 1.

6. First auxiliary request, claim 1, inventive step starting from E1 combined with E2

6.1 In its communication in preparation for oral proceedings, the Board presented the following opinion on this issue:

"Starting with E1 and using the objective technical problem already formulated (reduced preparation time), it may need to be considered whether E2 offers a solution to this problem. In this respect, the Board is of the opinion that E2 is not more relevant than E1. It discloses (see abstract) a beverage machine that has a fast-acting on demand heater for use in a low power mode. This heater appears to be similar to E1's hotblock.

However, whether E2's on demand heater is held at a temperature when not preparing a beverage is not said. It is merely said to heat water, on demand, that leaves the main tank (see page 2, lines 22 to 26 and claim 4).

Therefore, the objection would appear not to be more relevant than when considering inventive step starting from E1 and combining it with the skilled person's common general knowledge".

6.2 At oral proceedings before the Board the appellant-opponent declined to comment further on this provisional opinion. Moreover, the Board sees no reason to revise it. Therefore, the Board concludes that the combination of E1 and E2 is not more relevant than the combination of E1 with the skilled person's general knowledge, so would likewise not lead the skilled person to the subject-matter of claim 1 as a matter of obviousness.

6.3 The Board concludes that, in the light of the arguments presented, the subject-matter of claim 1 involves an inventive step.

7. Novelty and inventive step of claim 15

The Board's conclusions on novelty and inventive step for claim 1 likewise apply to claim 15, since the latter claim defines a method that results in a machine according to claim 1.

8. First auxiliary request, insufficiency of disclosure, Article 83 EPC and exclusion from patentability under Article 52(2) EPC (claim 15)

During the oral proceedings before the Board, the appellant-opponent withdrew all its objections under these articles. Therefore, the objections previously raised no longer need to be considered by the Board.

9. The arguments of the appellant-proprietor have not convinced the Board that the subject-matter of claim 1 of the main request is novel.

Similarly, the arguments of the appellant-opponent have not convincingly demonstrated to the Board that the opposition division erred in deciding that the patent should be maintained in amended form according to the first auxiliary request.

Therefore, both appeals must fail and the Board need not consider the lower ranking requests.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar:

The Chairman:



T. Buschek

A. de Vries

Decision electronically authenticated