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**Datasheet for the decision
of 6 October 2023**

Case Number: T 1186/20 - 3.2.03

Application Number: 12163668.2

Publication Number: 2650615

IPC: F22B1/28, F24C15/32, A47J27/04,
F24C15/00

Language of the proceedings: EN

Title of invention:
Oven for baking food products

Patent Proprietor:
Electrolux Home Products Corporation N.V.

Opponent:
Weickmann & Weickmann Patent-
und Rechtsanwälte PartmbB

Relevant legal provisions:
EPC Art. 100(a), 54, 56, 84, 123(2)
RPBA 2020 Art. 12(4), 13(2), 12(6)

Keyword:

Grounds for opposition - fresh ground for opposition (yes)
Amendments - added subject-matter (no) - added subject-matter
(yes)
Claims - clarity (yes)
Inventive step - could-would approach (no) - partial problems
(yes)
Amendment to case - reasons for submitting amendment in appeal
proceedings (no) (no)
Amendment after summons - exceptional circumstances (no)

Decisions cited:

G 0004/92, G 0007/95



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Case Number: T 1186/20 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 6 October 2023

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
19 March 2020 concerning maintenance of the
European Patent No. 2650615 in amended form.**

Composition of the Board:

Chairman C. Herberhold
Members: B. Goers
F. Bostedt

Summary of Facts and Submissions

- I. European patent No. 2 650 615 relates to an oven for baking food products comprising a baking chamber and a feeding unit for feeding steam into the baking chamber.
- II. In the impugned decision, the opposition division concluded that the patent as amended on the basis of auxiliary request 6 complied with the requirements of the EPC.
- III. This decision was appealed by both the patent proprietor and the opponent who are referred to as such in this decision for the sake of simplicity.
- IV. The patent proprietor did not attend the oral proceedings before the Board on 6 October 2023 as announced with letter dated 2 October 2023. According to Rule 115(2) EPC and Article 15(3) RPBA 2020 the proceedings were continued without the patent proprietor who was treated as relying only on its written case.
- V. The final requests at the oral proceedings were as follows.

The patent proprietor requested in the written proceedings that the decision under appeal be set aside and the patent be maintained as granted (main request), or, subsidiarily, on the basis of any of auxiliary requests A1 to A10 filed with the reply to the opponent's statement setting out the grounds of appeal, auxiliary request 11 filed by letter dated 13 April 2022, or auxiliary request 12 filed by letter dated 21 April 2023.

The opponent requested that the decision under appeal be set aside and that the patent be revoked.

VI. Evidence relevant to this decision

D1: FR 2 614 976 A1
D3: EP 2 048 444 A2
D4: US 4 031 911 A
D5: EP 2 264 240 A1
D6: EP 1 462 050 A2
D7: FR 2 380 015 A1
D8: FR 2 774 103 A1
D9: FR 2 653 208

E1: FR 2 707 734 A1
E2: EP 1 654 931 A2

VII. Features of the claim requests relevant to the decision

(a) Claim 1 of the main request reads (feature numbering added in "[]")

"[1.0] *An oven for baking food products comprising*
[1.1] *a baking chamber (3), and*
[1.2] *a feeding unit (6) for feeding steam into the*
baking chamber (3),
[1.2.1] *the feeding unit (6) comprising a tank (7) for*
containing water,
[1.2.2] *a steam generator (8) in fluid communication*
with the tank (7), and
[1.2.3] *a feeding circuit (9) for feeding steam*
produced by the steam generator (8) into the chamber
(3);
and characterised in that

[1.3] the tank (7) comprises two shells (10a, 10b),
 [1.3.1] which are permanently
 [1.3.2] connected to each other along a junction line
 (15),
 [1.4] wherein the feeding unit (6) comprises,
 furthermore, an inlet (16, 17) of the water into the
 tank (7)
 [1.5] and an air trap (20) for preventing the steam
 from reaching the outer environment through the inlet
 (16, 17) itself, and
 [1.5.1] wherein the air trap (20) is manufactured as
 one single piece together with said shells (10a, 10b)."

(b) The claims 1 of **auxiliary requests A1 to A8** are based on the main request with permutations of the following features as shown in this table.

	AR A1	AR A2	AR A3	AR A4	AR A5	AR A6	AR A7	AR A8
[1.3.3]					X	X		X
[1.4a]	X	X	X					
[1.5a]	X	X	X					
[1.5.1.1]			X					
[1.5.2]	X				X			X
[1.5.2']		X	X			X		
[1.5.3]				X	X	X	X	X
[1.6]							X	X
[1.7]							X	X

Feature [1.3.3]:

"and the tank (7) presents, furthermore, at least one coupling sleeve (16) for connecting the tank (7) to a relative feeding duct (17);

the coupling sleeve (16) being manufactured as one single piece together with said shells (10a, 10b),"

Feature [1.4a]:

"with a coupling sleeve (16) for connecting the tank (7) to a relative feeding duct (17) and"

Feature [1.5a]:

"the coupling sleeve (16) being manufactured as one single piece together with said shells (10a, 10b),"

Feature [1.5.1.1]:

"partly on the first shell (10a) and partly on the second shell (10b)"

Feature[1.5.2]:

"and wherein the air trap (20) is obtained at the inlet of the sleeve (16)"

Feature [1.5.2'] (amendments with respect to feature [1.5.2] marked in bold and strike-through):

*"and wherein the air trap (20) is obtained at the ~~inlet~~ **outlet** of the sleeve (16)"*

Feature[1.5.3]:

"wherein the feeding unit (6) comprises, furthermore, a separation chamber (32) for separating the mixture of water and steam fed by the steam generator (8) to the feeding circuit (9); the separation chamber (32) being manufactured as one single piece together with said shells (10a, 10b)"

Feature [1.6]:

"wherein the feeding unit (6) comprises, furthermore, a water discharge (44) for discharging the water from the tank (7) and a filtering device (38) for filtering the

water fed to the discharge (44) itself; the filtering device (38) being mounted outside of said tank (7),"

Feature [1.7]:

"wherein the filtering device (38) comprises a first port (41) communicating with the tank (7), a second port (41) communicating with the steam generator (8), and an outlet (42) communicating with said discharge (44) the filtering device (38) being mounted outside of said tank (7), wherein the filtering device (38) comprises a first port (41) communicating with the tank (7), a second port (41) communicating with the steam generator (8), and an outlet (42) communicating with said discharge (44)."

VIII. The patent proprietor's arguments relevant to the present decision can be summarised as follows.

(a) Consideration of the novelty objection based on D3
The novelty objection based on D3 should not be admitted as it could and should already have been filed in the opposition proceedings.

(b) Main request (patent as granted) - novelty
The novelty objection was not to be admitted into the proceedings. Furthermore, the subject-matter of claim 1 of the main request was novel over D3. At least features [1.3] to [1.3.2], [1.5] and [1.5.1] were not disclosed in D3.

(c) Main request (patent as granted) - inventive step
The subject-matter of claim 1 of the main request involved an inventive step in view of D3 as the starting point in combination with the teaching of D5. A partial problem approach was not applicable.

The distinguishing features were interrelated and addressed the single technical problem of producing the tank "in a relatively low-cost manner". In addition, the skilled person had no incentive to provide an additional air trap, since the valve in the feeding duct already prevented steam from reaching the outer environment. Such a partial problem was not allowable since it contained parts of the solution. The tank of D3 was also not suitable for integrating an air trap at the inlet. Furthermore, the siphon formed at the two shell pieces in D5 was not an air trap with the relevant function. In view of the feeding unit disclosed in D3, the skilled person would also not consider a two-shell design for reasons of costs and fluid-tightness.

- (d) Auxiliary requests A1 to A3 - admittance
Auxiliary requests A1 to A3 were the subject of the decision under appeal and were to be admitted.
- (e) Auxiliary request A1 - inventive step
The subject-matter of claim 1 of auxiliary request A1 involved an inventive step for the same reasons as the main request. Starting from D3 the skilled person would neither consider an additional air trap nor a two shell design.
- (f) Auxiliary requests A2 and A6 - Article 123(2) EPC
The requirements of Article 123(2) EPC were fulfilled. The amendment "obtained at the outlet" in feature [1.5.2'] was made in response to an objection of added subject-matter in regard to the term "obtained at the inlet".

- (g) Auxiliary request A3 - inventive step
Since the tank of D3 was already unsuited to the integration of an air trap and doing so was moreover not obvious, the additional feature [1.5.1.1] characterising this air trap also involved an inventive step.

- (h) Auxiliary requests A4 and A5 - inventive step
The added features increased operational safety and efficient water use and contributed to a further cost saving effect. They were not obvious from the prior art.

- (i) Auxiliary request A7 - admittance
The request was to be admitted since it was filed in response to a previously raised objection as to clarity.

- (j) Auxiliary request A8 - Article 84 and 123(2) EPC
The subject-matter of claim 1 of auxiliary request A8, in particular feature [1.5.2], was both clear and originally disclosed at least in original claims 1, 6, 7, 8, 13 and 15.

- (k) Auxiliary request A8 - inventive step
The subject-matter of claim 1 was neither disclosed nor rendered obvious by any of the prior art documents cited, in particular also not in the closest prior art document D3. D3 disclosed a different cleaning technology (chemical descaling) for a different purpose (removal of scale from the system).

IX. The opponent's arguments relevant to the present decision can be summarised as follows.

- (a) Consideration of the novelty objection based on D3
The novelty objection should be admitted. An objection under Article 56 EPC had been raised against the main request on the basis of D3 as the starting point. Therefore, discussion of the features of D3 did not constitute a fresh case.
- (b) Main request (patent as granted) - novelty
The subject-matter of claim 1 was not novel over D3. The whole tank could be considered an air trap since it was suitable for such a function. It was further apparent from the figures in D3 that in fact a two shell design was implicitly disclosed in D3. It was in any event a skilled person's most preferred choice for such a complex tank structure.
- (c) Main request (patent as granted) - inventive step
Even if it were assumed that the product-by-process features [1.3] to [1.3.2] and [1.5.1] established a difference, they referred to a different partial problem than the provision of the air trap according to feature [1.5]. Both feature groups were, however, rendered obvious by D5 which addressed the same problems for a comparable household appliance.
- (d) Auxiliary requests A1 to A3 - admittance
Auxiliary requests A1 to A3 were not to be admitted since they should already have been submitted with the patent proprietor's statement setting out the grounds of appeal.

(e) Auxiliary request A1 - inventive step

The subject-matter of claim 1 did not involve an inventive step. The amendments in features [1.4a], [1.5a] and [1.5.2] made to claim 1 with respect to the main request did not result in further distinguishing features over D3.

(f) Auxiliary requests A2 and A6 - Article 123(2) EPC

The term "outlet" was not disclosed in the context of feature [1.5.2'] in the application as filed.

(g) Auxiliary request A3 - inventive step

Feature [1.5.1.1] defining that the air trap is formed partly on both parts of the shell is already also suggested by D5 in combination with the two shell design and did not involve an inventive step.

(h) Auxiliary requests A4 and A5 - inventive step

The features [1.5.3] and [1.3.3] added with respect to auxiliary request 1 were likewise known from the combination of documents D3 and D5 and thus did not involve an inventive step. In particular, the amendments made to claim 1 with respect to the main request did not result in further distinguishing features over D3.

(i) Auxiliary request A7 - admittance

Auxiliary request A7 was not to be admitted. It should already have been filed in the opposition proceedings. No link could be made to previous clarity objections and other previously filed auxiliary requests had already addressed these issues. The subject-matter of claim 1 was also not convergent with the further auxiliary requests, since the arrangement of the coupling sleeve to the air trap was omitted.

- (j) Auxiliary request A8 - admittance of new objections and arguments

The new objections under Article 123(2) and 56 EPC should be admitted due to their relevance.

- (k) Auxiliary request A8 - Article 84 and 123(2) EPC

The additional feature [1.5.2] of claim 1 gave rise to issues under Article 123(2) and 84 EPC. It was not clear what was meant by "obtained at the inlet" because the term "inlet" was, with respect to the sleeve, ambiguous. This ambiguity also resulted in embodiments not disclosed in the application as filed being part of the claimed subject-matter, such as an air trap provided outside of the tank. Furthermore, the combination of added features [1.6] and [1.7] was not originally disclosed. The features were defined in claims 13 and 15 respectively of the application as filed, claim 15 being, however, an independent claim without back-reference to any previous claim.

- (l) Auxiliary request A8 - inventive step

D3 had already disclosed a cleaning method for the feeding unit. Providing a filter upstream of the evaporator to protect the evaporator was common general knowledge. Providing a filter in the discharge was just another obvious alternative.

Reasons for the Decision

1. Main request (patent as granted) - patentability

The opponent raised the following objections of lack of patentability of the subject-matter of claim 1 of the main request:

- the subject-matter was not novel in view of the disclosure of D3
- the subject-matter did not involve an inventive step in view of, *inter alia*, D3 as the starting point in combination with the teaching of D5.

The patent proprietor requested that the novelty objection based on D3 not be admitted.

1.1 Consideration of the novelty objection based on D3

The opposition was solely based on the ground for opposition under Article 100(a) EPC in conjunction with Articles 52(1) and 56 EPC. The novelty objection based on D3 thus constitutes a fresh ground for opposition (Article 100(a) in conjunction with Article 54 EPC, see G 7/95, headnote, first sentence).

The novelty objection was raised for the first time with the statement setting out the grounds of appeal as an "auxiliary approach" relying on a specific - and compared to the opposition proceedings different - understanding of the feature [1.5] ("*an air trap for preventing the steam from reaching the outer environment through the inlet itself*").

However, the allegation that the subject-matter of claim 1 lacks novelty over D3 is considered for the following reasons.

- 1.1.1 D3 had already been relied on in the notice of opposition as the starting point for an objection of lack of inventive step, an objection which was re-submitted in the statement setting out the grounds of appeal. Construing the features and then establishing the distinguishing features with respect to the closest prior art D3 is a precondition for the assessment of inventive step.

Following G 7/95, headnote, second sentence, the Board thus decided to consider the allegation that the claims lacked novelty over D3 in the context of deciding upon the ground of lack of inventive step.

- 1.1.2 D3 discloses a feeding unit shown in Figures 4 to 6 which includes a tank, a water inlet ("Einlass zum Befüllen mit einer Flüssigkeit 26.1.1") and a steam generator ("Durchlauferhitzer 26.2") in fluid communication with the tank. It was under dispute whether features [1.3], [1.3.1], [1.3.2], [1.5] and [1.5.1] were disclosed in D3.

- 1.1.3 Features [1.5] and [1.5.1]

The opponent's novelty objection was based *inter alia* on the understanding that the whole tank had the function of an air trap and this tank structure thereby anticipated features [1.5] and [1.5.1].

This interpretation is not persuasive. As already concluded by the opposition division in the appealed decision, the skilled person understands the term "air

trap" in feature [1.5] as a distinct technical feature and not merely as a function of the overall tank structure as such.

An air trap is a technical term with a distinct meaning and encompasses a "U-" or "S"-shaped pipe section to prevent gases (here vapour) from escaping a liquid body. This structure is commonly known to a skilled person (e.g. "drain traps"). Such an air trap is shown in the patent (reference 20), but also e.g. in D5, Figure 4 (reference 31).

Since D3 does not disclose such an air trap, features [1.5] and [1.5.1] are features distinguishing the subject-matter of claim 1 from D3.

1.1.4 Features [1.3], [1.3.1] and [1.3.2]

Features [1.3], [1.3.1] and [1.3.2] are product-by-process features ("two shells permanently connected to each other along a junction line"), the result of which is an integral single-piece tank. It was not in dispute that the final tank product manufactured in accordance with features [1.3] to [1.3.2] is distinguishable from single-piece tanks produced by other methods.

Tank 26.1 is shown in the figures of D3 as an integral single part together with the sleeves. This is also confirmed by the hatching in the cross-sectional view of Figure 5: tank and sleeves all have the same hatching here.

D3 gives no indication of a method for producing this single piece integral tank. Paragraph [0026], lines 43-45, merely states that the tank and sleeves are formed as a single plastic part (emphasis added: "Der

Tank 26.1 ist als **ein** Kunststoffteil ausgebildet und **weist einen Einlass 26.1.1 und einen Auslass 26.1.2 auf** ["The tank 26.1 takes the form of **a** plastics part and **has an inlet 26.1.1 and an outlet 26.1.2**"].

The opponent's view that a manufacturing method involving joining two half-shells is implicit for a tank as in D3 is not persuasive.

Firstly, the opponent did not state that it was impossible to manufacture a tank as in D3 as a single piece in a single step. They only argued that in view of the geometry of the tank it was highly unusual and technically very challenging to produce the tank directly as a single piece with known processes ("Schleuderguss" ["centrifugal casting"]). A manufacturing method producing two half-shells which are subsequently joined was thus highly preferable and obvious to the skilled person. This argument, however, is not relevant for the assessment of a direct and unambiguous disclosure, i.e. a question of novelty, but may be relevant only in the assessment of obviousness.

Secondly, the Board sees no evidence in support of an implicit disclosure in D3. The thicker lines emphasized by the opponents at the half diameter of the tank 26 displayed in Figures 3 and 6 of D3 and alleged pre-mounting clips in Figure 4 identified by the opponent cannot support the opponent's view. D3 is mute regarding these allegedly thickened lines and also does not describe any pre-mounting clips. For example, the lines could also indicate reinforcements integrally formed with the tanks side walls.

Therefore, D3 does not - even implicitly - exclude manufacturing methods involving forming the tank in a

single step (or other manufacturing methods) provided a final integral tank is obtained. Features [1.3] to [1.3.2] are thus not directly and unambiguously disclosed in D3.

1.1.5 To conclude, the Board considers that claim 1 of the main request is novel over D3 which does not disclose features [1.3] to [1.3.2], [1.5] and [1.5.1].

1.2 Inventive step - D3 as the starting point in combination with D5

Of all the documents which the opponent considered as closest prior art (E1, E2 - figures 3 and 4, D3 and D9), only D3 discloses construction details of the tank shell (see Figures 4 to 6). In addition, D3, like the patent, addresses the problem of reducing the number of parts by integrating functional features with the shell parts (see e.g. paragraph [0015]). The Board thus considers D3 to be the most promising starting point for the discussion of inventive step.

The distinguishing features are [1.3] to [1.3.2], [1.5] and [1.5.1] as considered above (see point 1.1.5).

The Board has concluded that the subject-matter of claim 1 of the main request does not involve an inventive step as explained in the following paragraphs.

1.3 Objective technical problems

1.3.1 Contrary to the patent proprietor's view, the Board is not convinced that all the distinguishing features relate to the objective technical problem of producing the tank in a relatively low-cost manner.

Firstly, it is not convincing that the provision of an additional structural element (the air trap) can be related to the problem of lowering costs.

Secondly, there is no structural or functional relationship between the provision of an air trap as such and the question of how this air trap is integrated into the tank in the manufacturing process thereof.

- 1.3.2 Instead, the distinguishing features have to be grouped and relate to the following different (partial) technical problems.

Features [1.3] to [1.3.2] and [1.5.1] all are product-by-process features of the tank and its integral features obtained by joining two shells. It is acknowledged for this feature group that the **partial technical problem 1** is to produce the tank in a cost-efficient manner (see patent, paragraph [0012]).

However, the provision of an air trap as such in accordance with feature [1.5] addresses another technical problem (**partial technical problem 2**) which is to prevent steam from (exiting the tank) and flowing along the (inlet) duct and from leaving the oven (see patent, paragraph [0039]).

- 1.3.3 The patent proprietor's argument that the partial technical problem 2 "to prevent steam from flowing along the [inlet] duct and from leaving the oven" was not allowable since it already encompassed parts of the solution is not persuasive.

While, as argued by the patent proprietor with reference to various cases, it is established case law that, as a rule, the technical problem should not contain a pointer to the solution, in the case at hand the Board has concluded that the formulation of partial technical problem 2 does not in fact point to the solution. Contrary to the patent proprietor's view, this problem relates solely to the technical effect that the distinguishing features have, and does not anticipate the specific solution of the provision of an air trap at the inlet as defined in feature [1.5] (see construction of the feature "air trap" under point 1.1.3 above).

Providing an air trap is also not the only way to solve the problem of preventing steam from leaving the tank (i.e. it is not a "one-way" solution). By way of example, the patent proprietor itself pointed to the possibility of closing the inlet line with a valve as an alternative means (such as valve 44 in D3) for addressing and solving the problem. The patent proprietor also did not present any other convincing technical problem which could be related to feature [1.5].

- 1.3.4 In the appealed decision, the opposition division additionally concluded that the inclusion of an air trap to the water inlet of the tank in D3 was not obvious to the skilled person since for the embodiment shown there was no risk of steam escaping the oven via the inlet line (i.e. partial problem 2 did not even arise). This conclusion was based *inter alia* on the argument that in steaming operation, the water in the tank would not fall below the level at which the steam would come into contact with the water inlet.

The Board is not convinced by this line of reasoning either.

Firstly, in D3 - as in the patent - forced circulation is established in the tank during steam generation. Due to imperfect separation of steam and water, this includes the risk of steam distribution within the whole tank, including also in the inlet section, even if this is initially completely filled with water.

Secondly, an air trap is also considered necessary in the patent, although the tank has a lower narrow middle section and further includes baffles (45) between the water inlet and the steam generator.

Contrary to the patent proprietor's view, the Board also sees no reason why the tank of D3 would not be suitable for the integration of an air trap at the inlet sleeve in view of the similar design of the tank and the position of the inlet sleeve compared to the embodiment of the patent.

1.4 The skilled person would consider the teaching of D5

The patent proprietor argued that direct manufacture of a single piece would be the straight-forward solution starting from D3 and therefore there was no need to consider the teaching of D5. Moreover, the tank in Figure 4 of D3 was not suited to being produced from two shells.

These arguments are not convincing.

As explained above, D3 does not reveal any details about the manufacturing method. For more complex tank structures - even if the connectors are formed at the

connection line - a direct single-piece molding process might well be more expensive than the two-shell manufacturing method. The skilled person is thus not prevented by any technical prejudice from considering the teaching of D5.

Like D3, D5 also discloses a feeding unit with a tank and a steam generator for a household appliance.

The Board agrees with the conclusion in the appealed decision that the skilled person starting from a steam oven in D3 would - in view of technical problems 1 and 2 - consider the teaching of D5, despite the steam feeding unit disclosed herein stemming from a different household appliance than the patent (laundry machine).

The fact that D5 concerns a different household appliance does not, in the present case, prevent the skilled person from considering this teaching. Water tanks for steam generators for the appliances of D3 (oven) and D5 (laundry machine) are comparable in terms of their design constraints. In addition, the manufacturing method of the tank does not seem to be related to the type of household appliance requiring steam.

1.5 Partial problem 2 - obviousness of the air trap

1.5.1 The patent proprietor argued that the skilled person would not consider the teaching of D5 since a solution to the problem was already provided in D3. The oven disclosed in D3 already had means suitable for preventing steam from leaving the oven. In particular, it encompassed a valve 44 and a pump 22 in the feeding duct to shut off the tank from the inlet duct. According to D3, paragraph [0016] the valve was closed

in the cleaning mode and during normal operation. For this reason, a skilled person could possibly consider an alternative solution as in D5, but would see no incentive to do so.

However, the Board is not convinced that the skilled person would consider the valve and the pump as a solution to technical problem 2. The valve is only described as liquid-tight ("flüssigkeitsdicht") and not as steam-tight. Furthermore, the valve is disclosed in D3 for a different purpose, namely to reduce noise emissions from the oven.

Moreover, the air trap according to feature [5.1] prevents steam from exiting the tank as such. This corresponds to the statement in paragraph [0039] of the patent according to which steam should be prevented from "flowing along the filling duct and [subsequently] from leaving the oven through the wall". In D3, between the inlet to the tank and the valve, there is in fact such a filling duct (24) which would still come into contact with the steam up to the valve even if the valve were closed.

Therefore, the skilled person would not consider the valve and the pump in D3 as a means of solving the objective technical problem but would consult further prior art such as D5.

- 1.5.2 D5 discloses an air trap ("siphon 31") connected to the inlet of the water inlet sleeve (see Figure 4, "water inlet 22a"). This air trap is described to have the same purpose of preventing steam from entering the water inlet duct (see paragraph [0010]) as according to the objective technical problem. The skilled person

would, therefore, also consider adding such a valve to the inlet sleeve of the tank in D3.

To conclude, feature [5.1] is obvious in view of the disclosure of D5.

1.6 Partial problem 1 - obviousness of the product-by-process features

1.6.1 As disclosed in Figure 5 of D3, forming a tank with integral functional features from two shells connected along the periphery is a commonly known manufacturing method and can be considered as part of common general knowledge. This is exemplified by the numerous disclosures referred to by the opponent:

- D1: page 5, lines 27-29
- D4: Figure 2 and column 4, lines 4-8
- D5: Figure 4 and paragraph [0012]
- D6: Figure 4 and claim 6
- D7: Figure 10 and page 8, line 35 to page 9, line 1
- D8: page 1, lines 12-23

It is therefore not persuasive that the skilled person would generally prefer a single-piece manufacturing method or that the two-shell design gives rise to concerns about the tightness of the connection.

1.6.2 D5, in particular, discloses that the tank can be effectively produced by injection moulding of two plastic half-sleeves, which are subsequently joined together (paragraph [0012]), e.g. by welding or gluing. D3 does not disclose any method for manufacturing the integral tank. Therefore, in looking for a suitable method, the skilled person would consider this teaching of D5 as being part of the common general knowledge of

the skilled person and would apply it even without a particular pointer to do so.

In addition, D5 also discloses that the air trap is formed integrally with the tank to simplify manufacture (see paragraph [0011]). Forming functional parts integrally with the tank is already considered to have been disclosed by D3 (see paragraph [0013]), for another part, i.e. a demister ("Tropfenabscheider 26.1.4"), such that there are no obstacles to implementing an integrally formed air trap within the context of a two half-sleeve tank design.

1.7 To conclude, the solution to partial problems 1 and 2 according to claim 1 of the main request is obvious in light of the disclosure of D5 and common general knowledge. Therefore, the subject-matter of claim 1 including features [1.3], [1.3.1], [1.3.2] and [1.5.1] does not involve an inventive step.

2. Auxiliary requests A1 to A3 - admittance

The opponent requested that auxiliary requests A1 to A3 not be admitted since they were filed late in the appeal proceedings.

Auxiliary requests A1 to A3 correspond to auxiliary requests 2, 3 and 5 at the time of the oral proceedings before the opposition division and were all subject to the appealed decision. These requests were re-submitted during the appeal proceedings with the reply to the opponent's appeal.

They are thus not an amendment in the sense of Article 12(4) RPBA 2020 but part of the appeal case according

to Article 12(2) RPBA 2020. The Board has thus no discretion not to admit auxiliary requests A1 to A3.

3. Auxiliary request A1 - inventive step

Compared to claim 1 of the main request, claim 1 of auxiliary request A1 includes additional features [1.4a] (coupling sleeve), [1.5a] (manufactured as one single piece together with said shells) and [1.5.2] (air trap obtained at the inlet of the sleeve).

None of the added features [1.4a], [1.5a] and [1.5.2] establishes a further distinguishing feature over the disclosure of D3 as compared with the main request.

D3 also discloses sleeves - *inter alia* an inlet sleeve (26.1.1.) - manufactured with the tank shell as a single piece.

The location of the air trap at the inlet of the sleeve is already an implicit requirement of functional feature [1.5] (to prevent the steam from reaching the outer environment of the tank). In addition, it is also disclosed in D5.

Therefore, the conclusions with respect to the inventive step of the main request for the combination of documents D3 and D5 also apply *mutatis mutandis* to auxiliary request A1.

4. Auxiliary requests A2 and A6 - Article 123(2) EPC

The wording ("obtained at the outlet of the sleeve") according to feature [1.5.2'] of auxiliary requests A2

and A6 has no basis, whether explicit or implicit, in the application as filed.

Therefore, claim 1 of auxiliary requests A2 and A6 are not allowable under Article 123(2) EPC.

5. Auxiliary request A3 - inventive step

Claim 1 of auxiliary request A3 adds - compared with auxiliary request 1 - only feature [1.5.1.1] ("air trap manufactured partly on the first shell and partly on the second shell"). But even on consideration of this additional feature [1.5.1.1], the subject-matter of claim 1 does not involve an inventive step in view of the combination of D3 and D5 and common general knowledge (cf. also point 3. above).

The two-shell design disclosed in D5 already encompasses an air trap manufactured partly on both shells. This is shown in Figure 4, where the first shell with an open channel structure of the air trap (31) is closed by the second shell not shown in Figure 4 (cf. also paragraphs [0011] and [0012]).

Therefore, as was also concluded in the appealed decision, once the skilled person has considered the two-shell manufacturing method as disclosed in D5 (see point 1.6.2 above), this also points them towards the formation of the air trap in accordance with feature [1.5.1.1].

6. Auxiliary request A4 - inventive step

The subject-matter of claim 1 of auxiliary request 4 does not involve an inventive step.

The only further limiting feature [1.5.3] of claim 1 of auxiliary request A4 compared to the main request defines a separation chamber manufactured as a single piece with the shells of the tank.

The tank in D3 also includes a separation chamber as an integral part of the tank shell (see D3, paragraphs [0013], [0036] and Figure 5: "Tropfenabscheider 26.1.4" ["demister 26.1.4"]). The distinguishing features over D3 are the same as for the main request.

Therefore, the conclusions with respect to the inventive step of the main request for the combination of documents D3 and D5 also apply *mutatis mutandis* for auxiliary request A4.

7. Auxiliary request A5 - inventive step

7.1 The further restrictions in form of features [1.3.3] and [1.5.2] added to claim 1 of auxiliary request A5 do not - compared to auxiliary request A4 - result in any further distinguishing feature over D3.

Feature [1.3.3] corresponds in substance to the combination of features [1.4a] and [1.5a] of auxiliary request 1. As already concluded above for claim 1 of auxiliary request 1 (see point 3.), these features are also disclosed by D3.

The tank disclosed in D3 also comprises inlet and outlet sleeves integral to the tank shell (see Figure 5, sleeves 26.1.1 and 26.1.2 as well as the connectors to the steam generator).

Therefore, the conclusions with respect to auxiliary request 1 for the combination of documents D3 and D5 also apply *mutatis mutandis* to auxiliary request A5.

8. Auxiliary request A7 - admittance

The opponent requested that auxiliary request 7 not be admitted.

Auxiliary request A7 was submitted for the first time with the reply to the opponent's appeal in the opposition appeal proceedings. Auxiliary request A7 is thus an amendment under Article 12(4) RPBA 2020 and the Board has discretion with respect to its admittance.

Additionally, under Article 12(6), second sentence, RPBA 2020, the Board shall not admit requests which should have been submitted in the proceedings leading to the decision under appeal, unless the circumstances of the appeal case justify their admittance.

Compared to auxiliary request A8, which was filed during the opposition proceedings (as auxiliary request 6), the only difference is that feature [1.3.3] (coupling sleeves integral to the shells) has been omitted in claim 1.

It is not apparent what circumstances could have led to the submission of an additional request with this amendment. The patent proprietor argued that the

omission of feature [1.3.3] was in response to an earlier clarity objection. This is not convincing since none of the claim requests on which the decision under appeal is based comprises feature [1.3.3].

Therefore, the Board decided not to admit auxiliary request A7 into the appeal proceedings.

9. Auxiliary request A8

Claim 1 of auxiliary request A8 includes, compared with auxiliary request 5, further features [1.6] and [1.7] which define a discharge for the tank and a filter for filtering this discharge.

The opponent raised objections against claim 1 of auxiliary request A8 under Articles 123(2), 84 and 56 EPC.

However, auxiliary request 8 is allowable as explained in the following paragraphs.

9.1 Auxiliary request A8 - Article 84 and 123(2) EPC

Claim 1 of auxiliary request A8 is based on a combination of the features of original claims 1, 6, 7, 8, 13 and 15 with the addition of feature [1.5.2].

9.1.1 The opponent raised the following objections under Article 123(2) EPC.

- (a) Feature [1.5.2] further included embodiments not originally disclosed, i.e. the air trap being arranged outside the tank upstream of the sleeve.

(b) Feature [1.5.2] was originally disclosed only in paragraph [0022] together with the feature that the air trap was manufactured partly on both shells and was obtained at the inlet of the sleeve, i.e. above the sleeve. The omission of the latter features constituted an non-allowable intermediate generalisation.

The opponent additionally argued that the inclusion of feature [1.5.2] gave rise to clarity issues.

These objections are not convincing as explained in the following paragraphs.

9.1.2 As to a) - air trap outside the tank

The opposition division's conclusion in the appealed decision, according to which the claim wording encompassed feeding units with the air trap located outside the tank, is not persuasive.

Features [1.3.3], [1.4], [1.5], [1.5.1] and [1.5.2] have to be interpreted in combination and not in isolation, contrary to the approach in the appealed decision ("when regarded in isolation"). These features which all stem from the original claims already define an inlet with a coupling sleeve and an air trap functionally linked to this inlet.

The interpretation that the air trap is arranged outside the tank (i.e. interpreting the term "inlet" according to a possible direction of water flowing into the tank) is excluded by the wording of claim 1 since the coupling sleeve is defined for connecting the tank to a feeding duct and not to an air trap (feature [1.3.3]). Furthermore, feature [1.5] requires that the

air trap be suitable for preventing the steam from reaching the outer environment through the inlet, i.e. with respect to the direction of vapour flow, the sleeve is upstream of the air trap.

Therefore, claim 1 encompasses solely an air trap located relative to the sleeve inside the tank as also originally disclosed.

9.1.3 As to b) - omission of "partly on both shells"

The opponent argued that feature [1.5.2] stems from the description of the application as filed (see paragraph [0022] of the A-publication) and was only disclosed together with the feature that the air trap was manufactured partly on both shells. The omission of the latter constituted an non-allowable intermediate generalisation.

This is not persuasive. For the reasons given above, the combination of features [1.3.3], [1.4] and [1.5] already implicitly defines what is then explicitly confirmed by feature [1.5.2]. Therefore, feature [1.5.2] is also (implicitly) disclosed in original claims 1, 7 and 8.

It is thus of no relevance for the question of added matter that feature [1.5.2] relies on the same wording used in the description of the embodiment in paragraph [0022].

9.1.4 Feature [1.5.2] (obtained at the inlet of the sleeve) is also clear. For the device as such the term "inlet" is not a functional restriction for the flow direction in service. By way of illustration: the sleeve could e.g. be considered to have two inlets, one from each

side. Due to the further restrictions, the location of the air trap relative to the sleeve is unambiguously defined.

9.2 New objection under Article 123(2) EPC - admittance

For the first time during the oral proceedings before the Board, the opponent raised the following additional objection under Article 123(2) EPC.

The opponent argued that claim 15 could not be considered as a basis for the amendments. Claim 15 of the application as filed was not dependent on any of the previous claims, in particular not on claim 13, but only on itself and a non-existent claim "16". The obviously incorrect back-references in claim 15 were later corrected under Rule 139 EPC (see patent as granted, claims 12 to 14).

These new arguments constitute an amendment of the opponent's appeal case under Article 13(2) RPBA 2020. The opponent also did not invoke special circumstances as would be required and the Board could not identify any either.

Furthermore, a decision against the patent proprietor who had been duly summoned but who failed to appear at oral proceedings before the Board may not be based on these new facts put forward by the opponent for the first time during those oral proceedings (cf. G 4/92, headnote, first sentence).

Therefore, the Board exercised its discretion and decided not to admit the new arguments.

9.3 Auxiliary request A8 - Inventive step

Claim 1 of auxiliary request A8 includes *inter alia* features [1.6] and [1.7] which define a filter device provided in a fluid line with a first port connected to the tank and a second port connected to the steam generator. The filter further comprises a discharge and the filter filters "the water fed to the discharge itself", i.e. the filter only filters water entering the discharge "to prevent the limescale present in the water to reach the outlet" (patent, paragraph [0051]).

The only objection of lack of inventive step raised by the opponent against auxiliary request A8 relies on D3 as the starting point in combination with D5 and common general knowledge.

9.3.1 D3 discloses, in addition to what has already been established in the discussion of the previous requests, a chemical descaling process as a cleaning measure for the feeding unit. The cleaning solution is discharged at the top of the tank through the steam sleeve ("Auslass 26.1.2" ["outlet"]) which is connected via a steam-feeding circuit ("Dampfleitung 28" ["steam line"]) to the baking chamber via an opening ("Dampföffnung 30" ["steam opening 30"]). To achieve this, additional water is supplied to the tank to replace the cleaning liquid. However, this fluid line formed by parts 26.1.2, 28 and 30 does not allow water to be removed from the tank. It only allows the cleaning solution to be replaced with water before steam generation is continued. Therefore, vapor sleeve 26.1.2 is not considered a "water discharge for discharging the water from the tank" in accordance with features [1.6] and [1.7].

A filter according to features [1.6] and [1.7] is undisputedly not disclosed in D3. The subject-matter of claim 1 including these features involves an inventive step for the following reasons.

- 9.3.2 In the written proceedings, the opponent argued that the filter device was an obvious alternative to the descaling process already disclosed in D3. In its arguments, the opponent considered it obvious to provide a filter which cleans the water entering the steam generator. Such an arrangement is, however, not claimed in claim 1 of auxiliary request 8 (see above) and it is not described in paragraphs [0049] to [0051] and Figures 3 and 4 of the patent either.

For this reason alone, this objection under Article 56 EPC against the subject-matter of claim 1 of auxiliary request A8 is not persuasive.

- 9.3.3 During oral proceedings before the Board the opponent for the first time submitted new arguments with respect to the objection of lack of inventive step.

They argued - at variance with their previous reasoning - that both the provision of a discharge and the provision of a filter for the discharge in accordance with features [1.6] and [1.7] were commonly known measures the skilled person would provide and did not involve an inventive step. No evidence was submitted in support of such common general knowledge.

In addition to the conditions for the introduction of new facts in oral proceedings in the absence of a duly summoned party (cf. G 4/92, see point 9.2 above), the new arguments constitute an amendment of the opponent's appeal case under Article 13(2) RPBA 2020. The opponent

did not invoke special circumstances as would be required and the Board could not identify any either.

Furthermore, when also applying the criteria set out in Article 13(1) RPBA 2020, this amendment is - in the absence of evidence for common general knowledge - not suitable for resolving the issue of the opponent's unsuccessful inventive step attack in the written proceedings.

Therefore, the Board exercised its discretion and did not admit the new arguments.

- 9.4 It was not disputed that the amendments made to the description are allowable.
- 9.5 To conclude, auxiliary request A8 is allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent as amended in the following version:
 - Claims:
 - No. 1 to 10 according to "Auxiliary Request A8" filed with the letter of 9 December 2020
 - Description:
 - columns 1 to 8 filed with the letter of 2 October 2023
 - Drawings:
 - Figures 1 to 4 of the patent specification

The Registrar:

The Chairman:



C. Spira

C. Herberhold

Decision electronically authenticated