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**Datasheet for the decision
of 4 July 2019**

Case Number: T 2298/17 - 3.2.04

Application Number: 12006927.3

Publication Number: 2581003

IPC: A47J37/07, A47J37/06

Language of the proceedings: EN

Title of invention:
Apparatus for cooking food products

Patent Proprietor:
Reichlin, Andreas

Opponent:
Nouvel AG

Headword:

Relevant legal provisions:
EPC Art. 56
RPBA Art. 12(4), 13(1)

Keyword:

Inventive step - could-would approach - main request (no) -
auxiliary requests (no)

Decisions cited:

Catchword:



Beschwerdekammern
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Case Number: T 2298/17 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 4 July 2019

Appellant: Nouvel AG
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted on
18 July 2017 concerning maintenance of the
European Patent No. 2581003 in amended form.

Composition of the Board:

Chairman A. de Vries
Members: C. Kujat
 W. Van der Eijk

Summary of Facts and Submissions

- I. The appellant-opponent lodged an appeal, received on 21 September 2017, against the interlocutory decision of the opposition division of the European Patent Office, posted on 18 July 2017, concerning maintenance of the European Patent No. 2 581 003 in amended form pursuant to Articles 101(3) (a) and 106(2) EPC, and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 27 November 2017.

- II. Opposition was filed under Article 100(a) EPC based on lack of novelty and on lack of inventive step, and under Article 100(b) EPC based on insufficiency of disclosure.

- III. The opposition division held that the patent as amended according to the main request and the invention to which it related met the requirements of the EPC, having regard inter alia to the following evidence:

D1: CH 699 047 B1

- IV. In preparation for oral proceedings the board issued a communication dated 14 December 2018 setting out its provisional opinion on the relevant issues. Oral proceedings were duly held on 4 July 2019.

- V. The appellant-opponent requests that the decision under appeal be set aside and that the European patent No. 2 581 003 be revoked.

- VI. The respondent-proprietor requests that the appeal be rejected and the patent thus be maintained as upheld by the opposition division (main request) or, auxiliarily,

the patent be maintained in amended form on the basis of one of auxiliary requests 1-7, filed with letter of 22 June 2018, or on the basis of one of auxiliary requests 8-10, filed with letter of 26 April 2019. Further, the proprietor requests not to admit the grounds of appeal filed by the law firm "Manitz Finsterwald Patentanwälte PartmbB".

VII. Independent claim 1 according to the relevant requests reads as follows:

Main request (as maintained in amended form)

"An apparatus for cooking food products, said apparatus comprising a firebox (4) with a rotationally and axially symmetrical form, the firebox (4) having a box wall (6) and a box edge (8), which defines the box wall, and being intended to accommodate a combustion material which, during combustion, outputs the thermal energy required for cooking, and having a continuous heating surface (10) which runs substantially at a right angle to the axis (A) of the firebox (4), surrounds an opening (12) arranged about the axis and is intended for the direct cooking of the food products, wherein between the box wall (6) and the heating surface (10) there is arranged a false floor (14) which is intended to support the combustion material, characterised in that the false floor (14) and the box wall (6) have an outlet opening (24 or 22) each for removing the residue of the combustion material from the apparatus."

Auxiliary request 1

As in the main request but with the following feature added at the end of the claim:

" , the outlet openings (22, 24) being arranged in the bottommost region in each case of the box wall (6) and the false floor (14)."

Auxiliary request 2

As in auxiliary request 1 but with the following feature added at the end of the claim:

" , the outlet openings (22, 24) being arranged in such a manner, that the axis (A) of the firebox (4) passes through the outlet openings (22, 24)."

Auxiliary request 3

As in the main request but with the following amendment underlined by the board:

"... and is intended for the direct cooking of the food products, the heating surface (10) having the form of an annular surface with an outside radius R in the range of from 0.4 to 1.5 m, wherein between the box wall (6)...".

Auxiliary request 4

As in the main request but with the following amendment underlined by the board:

"... and is intended for the direct cooking of the food products, the heating surface (10) having the form of an annular surface with a ratio of the outside radius R to the inside radius r in the range of from 1.5:1 to 3:1, wherein between the box wall (6)...".

Auxiliary request 5

As in the main request but with the following feature added at the end of the claim:

" , the height of the heating surface (10) being 40 to 60 cm above the surface on which the apparatus stands."

Auxiliary request 6

As in the main request but with the following feature added at the end of the claim:

" , the diameter of the outlet opening (22) of the box wall (6) having a greater diameter than the outlet opening (24) of the false floor (14)."

Auxiliary request 7

As in the main request but with the following feature added at the end of the claim:

" and the false floor(14) is connected to the inside of the box wall (6), the connection between the false floor (14) and the box wall (6) being effected by means of welding."

Auxiliary request 8

As in auxiliary request 7 but with the following amendment underlined by the board:

"... and is intended for the direct cooking of the food products, wherein the outer edge of the heating surface (10) is welded to the edge of the firebox (4) on the inside and between the box wall (6)..."

Auxiliary request 9

As in the main request but with the following feature added at the end of the claim:

" , the outlet opening being annular and the diameter of the outlet opening (22) of the box wall (6) having a

greater diameter than the outlet opening (24) of the false floor (14)."

Auxiliary request 10

As in the main request but with the following feature added at the end of the claim:

" , the false floor (14) being in the form of a spherical or ellipsoidal pan and the outlet openings (22, 24) being arranged in the bottommost region in each case of the box wall (6) and the false floor (14)."

- VIII. The appellant-opponent argued as follows:
The grounds of appeal filed by the law firm "Manitz Finsterwald Patentanwälte PartmbB" should not be admitted to the appeal proceedings. The subject matter of independent claim 1 of all requests is rendered obvious by document D1.
- IX. The respondent-proprietor argued as follows:
The grounds of appeal filed by the law firm "Manitz Finsterwald Patentanwälte PartmbB" should be admitted to the appeal proceedings. The subject matter of independent claim 1 of all requests is not rendered obvious by document D1.

Reasons for the Decision

1. *Admissibility of the appeal*
- 1.1 Within the Article 108 EPC time limit for filing the statement of grounds two statement of grounds were filed by two different representatives, both

indisputably authorized by the appellant-opponent. The respondent-proprietor contests admissibility of the latter of the two statement of grounds namely that filed by the law firm "Manitz Finsterwald Patentanwälte PartmbB"

In the annex to the summons to oral proceedings before the board, item 1.4, the board gave the following preliminary opinion:

"Concerning the proprietor's requests, the board is of the opinion that a party may appoint several representatives (Rule 152(10) EPC, which is also applicable to appeal proceedings). The board therefore considers the statement setting out the grounds of appeal filed by "manitz finsterwald" admissible."

As the respondent-proprietor refrained from further comment, the board confirmed its provisional view and thus finds that the grounds of appeal filed by the law firm "Manitz Finsterwald Patentanwälte PartmbB" is admissible, Rule 152(10) EPC. In the further procedure the two statement of grounds have been considered as complementing each other.

1.2 As otherwise the notice of appeal was filed and the appeal fee paid in due time all the requirements of Article 108 EPC are met. Consequently the appeal is admissible.

2. Background

The invention concerns an apparatus for cooking food products comprising a firebox having an axially and rotationally symmetrical form. The firebox comprises a box wall and an annular heating surface with an opening for supplying oxygen to the combustion material within

the firebox. Between the box wall and the heating surface, there is a false floor intended to support the combustion material. The false floor provides thermal insulation between the combustion material and the box wall, allowing the apparatus to be used on heat-sensitive surfaces (patent, paragraph 18). The false floor and the box wall have an outlet opening each for removing the residue of the combustion material from the apparatus, which simplifies emptying the combustion residue (patent, paragraph 21).

3. *Main request - inventive step*

The appellant-opponent disputes the decision's finding that the subject-matter of independent claim 1 of the main request involves an inventive step over D1.

- 3.1 It is common ground that D1, see figures, discloses an apparatus for cooking food products with an outlet opening and a further cooking apparatus comprising a rotationally and axially symmetric fire box (4) with a box wall, box edge (4') and a continuous heating surface (8) with opening as in claim 1 of the main request. Paragraph 19 further describes an embodiment in which there is arranged a false floor ("Zwischenboden") between the box wall and the heating surface, so as to define a heat storage space ("Wärmespeicherraum") which accommodates a heat storage device with heat storage medium that can be used to transport stored heat via piping to a heating aggregate. The heat storage device may be in the form of a hollow coil ("Hohlspirale") and uses water as medium, paragraph 20.

It is also undisputed that the embodiment described in paragraph 19 may be regarded as a suitable starting

point for the assessment of inventive step. The parties further agree that, starting from the embodiment described in paragraph 19, the only possible difference of the subject-matter of claim 1, if any, from this known apparatus resides in the outlet openings in the false floor and the box wall for removing the residue of the combustion material, and that the associated objective technical problem may be regarded as simplifying emptying of the combustion residue, see paragraph 21 of the patent in suit.

It is common ground that the preceding paragraph 18 describes providing an opening in the bottom or lowermost area of the firebox in order to remove ash residue. The respondent proprietor contends that this paragraph 18 relates to a separate embodiment.

Leaving aside the question of novelty, the only point of contention in respect of inventive step concerns the question, whether a skilled person would as a matter of obviousness combine the teachings of paragraphs 18 and 19 of D1 in order to arrive at an apparatus for cooking food products according to claim 1 of the main request. The decision held, as also maintained by the respondent-proprietor, that the presence of the heat storage device would prevent the skilled person from providing a hole in the bottom of the false bottom and box wall.

- 3.2 In accordance with established jurisprudence, the boards apply the "could-would approach". This means asking not whether the skilled person could have carried out the invention, but whether he would have done so in the hope of solving the underlying technical problem, see CLBA, I.D.5. In the present case, it is common ground that the skilled person could have

arrived at the claimed cooking apparatus by modifying the prior art, i.e. by combining the teachings of paragraphs 18 and 19 of D1. However, the respondent-proprietor holds the view that the skilled person would not do so.

- 3.3 The board disagrees, since D1 already contains a strong pointer to such a combination. According to paragraph 18, the firebox is said to comprise an outlet opening for removing ash residue in its lowest area "as a general rule" ("weist die Feuerungswanne in der Regel an ihrem tiefstliegenden Bereich eine Öffnung auf", emphasis added by the board). That disclosure will prompt a skilled person to incorporate an opening for removing ash residue also in the box wall of the cooking apparatus with a false floor according to paragraph 19. A skilled person will immediately understand that such an opening in the box wall is useless if the false floor is not provided with a corresponding opening. The skilled person will thereby arrive at outlet openings for removing ash residue in both the false floor and the box wall.

None of the counter-arguments advanced by the respondent-proprietor have convinced the board of compelling reasons against said combination of paragraphs 18 and 19 of D1:

- 3.3.1 Contrary to the respondent's view, the board is of the firm opinion that presence of a hollow spiral in the space below the false bottom is compatible with an outlet opening in (the centre of) the false floor both in terms of heat flow considerations and of placement of the coil. As put forward by the respondent, the combustion material will be arranged in the centre of the false floor, and thus, cover the outlet opening.

That cover effectively prevents any upwardly oriented airflow, which would be a prerequisite for heat loss due to convection through the opening. Moreover, claim 1 is not restricted to a specific diameter and therefore also covers outlet openings which are small in relation to the overall size of the apparatus. In that case, the inevitable heat loss due to radiation from the hot cooking apparatus outweighs any potential convective loss through the openings. This is all the more so as D1 considers relatively small opening diameters of 20 mm with an outer radius of the cooking apparatus in the range of 0.4 to 1.5 m, see paragraphs 14 and 18. Therefore, relative heat losses would be minimal and of no great concern to the skilled person, certainly not to the extent as to discourage them from "as a rule" providing an opening in the bottom of the fire box, also with false floor, for the removal of ash residue.

- 3.3.2 The board further concurs with the respondent in that the hollow spiral heat storage device has a cylindrical shape with a helical tube extending vertically about a hollow centre. However, the board cannot see the alleged incompatibility of such a spiral with outlet openings in the false floor and the box wall. Instead, the (hollow) centre of the spiral, when for example arranged with the coil axis oriented vertically as suggested by the respondent, would not interfere with placement of openings in the hollow bottom and the bottom of the box wall. Thus placed, ash would fall freely through the central opening of the coil. This finding is not altered by the respondent's reference to the spiral's "optimal" filling of the heat storage space between the false floor and the firebox, see paragraph 20 of D1. Such an optimal filling does not imply full occupancy, which would be impossible with a

hollow coil, but rather refers to a space saving arrangement of the coil ,for example the vertical arrangement suggested above with the coil windings arranged coaxially about the box axis and its hollow centre aligned with the outlet openings in order to allow ashes to fall through the false floor and, ultimately, out of the box wall.

- 3.3.3 The board is also not convinced by the respondent-proprietor's argument that the false floor must be removable through the opening in the continuous heating surface for servicing the hollow spiral, thereby allowing emptying of the apparatus from above and obviating the need for any further outlet opening in the box wall. To the contrary, the size of the heating surface and the opening therein, which are disclosed in paragraph 14 and shown schematically in figures 1 and 2 of D1, create the impression that the false floor is too large and heavy to remove via the opening in the heating surface.

In addition to that, while the board believes that a simple hollow spiral heat storage device will need little servicing if at all, the board doubts that access to the spiral can only be guaranteed by a removable false floor. Instead, even if the false floor were connected to the box wall by welding, the spiral could still be reached through a separate service door in the box wall as is quite common. Moreover, rain water collecting in the apparatus must be drained prior to grilling even in case of a removable false floor, which is most effectively done by the outlet opening disclosed in paragraph 18 of D1.

- 3.3.4 The further argument advanced by the respondent-proprietor that potential contamination of the spiral

by ashes will discourage the skilled person from an outlet opening in the false floor also fails to convince the board. In conformity with the appellant-opponents' interpretation of D1, to which the proprietor did not object during oral proceedings, the board considers water flushing an effective method of cleaning the cooking apparatus. Thereby, any ashes covering the spiral will be flushed from the heat storage space through the outlet opening in the box wall, effectively preventing permanent contamination of the spiral.

- 3.4 From the above it follows that a skilled person will combine the teachings of paragraphs 18 and 19 of D1, and thus, arrive at an apparatus for cooking food products according to claim 1 of the main request in an obvious manner. Therefore, claim 1 of the main request lacks an inventive step, Article 56 EPC.

Since the main request must fail on this sole ground, the board does not need to decide on other evidence and arguments put forward against novelty or inventive step of claim 1 of the main request.

4. *Auxiliary requests 1-10 - inventive step*

4.1 Auxiliary requests 1, 2 and 10

The additional features "outlet opening arranged in the bottommost region of the box wall" and "outlet opening (in the box wall) being arranged in such a manner that the axis of the firebox passes through the outlet opening" in claim 1 of auxiliary requests 1, 2 and 10 are already disclosed in D1. They are a direct consequence of the outlet opening in the bottommost area of the firebox, due to the undisputed symmetry of

the spherical or ellipsoidal box wall, see paragraphs 8 and 18 of D1.

The objective technical problem underlying the further additional features "outlet opening arranged in the bottommost region of the false floor" and "outlet opening (in the false floor) being arranged in such a manner the axis of the firebox passes through the outlet opening" is regarded as a logical consequence of allowing the ash residue to drop from the opening in the false floor and out of the opening in the box wall, given the orientation of the fire box as e.g. shown in figures 1 and 2, see paragraph 25 of the patent.

It is common ground that the false floor according to paragraph 19 of D1 supports the combustion material. The board concludes that the false floor thereby takes over the main function of the central area of the box wall, effectively acting as the box wall for the purpose of heating the continuous heating surface. Consequently, it is obvious to model the false floor according to the shape of the central area of the box wall, with the same advantages of collection of the ash residue at the bottom and ease of removal, and thus, arrive at a spherical or ellipsoidal false floor with an outlet opening in its bottommost region according to claim 1 of auxiliary requests 1 or 10, through which the axis of the firebox passes according to claim 1 of auxiliary request 2.

4.2 Auxiliary requests 3, 4 and 8

The additional features of claim 1 of auxiliary requests 3, 4 and 8 are already disclosed in D1, see paragraphs 14 and 15 or claim 2. As the added features fail to further differentiate the claimed subject-

matter from D1, claim 1 of these auxiliary requests also lacks an inventive step in the light of D1 for the same reasons as for the main request.

4.3 Auxiliary request 5

According to the respondent-proprietor, the objective technical problem underlying the additional feature of claim 1 of auxiliary request 5 may be regarded as providing a comfortable grilling position.

In the board's view, a height of from 40 to 60 cm is within the normal range of height for grilling devices, and a skilled person would select it in an obvious

manner. Nor is the board able to associate any special effect with this range, other than that the heating surface is visible and accessible from a standing position, which is again characteristic for many grilling devices or fire boxes. This is all the more so, as the claim does not rule out that the continuous heating surface of the cooking apparatus may be raised to that height by placing the apparatus on conventional legs.

4.4 Auxiliary requests 6 and 9

The patent in suit does not disclose any specific effect caused by the additional feature "the diameter of the outlet opening of the box wall having a greater diameter than the outlet opening of the false floor" in claim 1 of auxiliary request 6 or 9. The objective technical problem underlying said feature may at best be regarded as selecting suitable dimensions of the outlet openings in the false floor and the box wall.

An outlet opening in the box wall of a smaller diameter than the outlet opening in the false floor would not make any sense in view of the openings' purpose, since larger objects passing through the false floor would then be retained within the box wall. The skilled person is therefore left with the choice between only two alternatives: outlet openings having identical diameters, or having the diameters according to claim 1. In the absence of any specific effect, the selection of one of these alternatives is considered an obvious modification of D1.

4.5 Auxiliary request 7

The patent in suit does not mention any specific effect caused by the additional feature "the connection between the false floor and the box wall being effected by means of welding" in claim 1 of auxiliary request 7. The objective technical problem underlying said feature that occurs to the board is to retain the false floor within the box wall.

For the reasons given in paragraph 3.3.3 of the present decision, the board is not convinced that the false floor must be removable through the opening in the continuous heating surface for servicing the hollow spiral. The respondent-proprietor did not provide other arguments in favour of a removable false floor, and the board does not see any. In fact, the risk of convective heat loss (cited by the respondent-proprietor against an outlet opening in the false floor in the context of the main request) would become a real problem with a removable false floor. It occurs around the circumference of the false floor, as there will inevitably be a gap between the false floor and the box wall, either due to manufacturing tolerances or due to

thermal deformation of the false floor caused by the combustion material. Given that the false floor would be too large and heavy to remove via the opening in the heating surface, which is welded to the fire box (claim 2 of D1) and is thus permanently within the box, but also to avoid heat losses a skilled person will as a matter of obviousness connect the false floor to the box wall. This will be done in an obvious manner by welding, since D1 already discloses a welded connection between the continuous heating surface and the box wall, see claim 2.

5. In conclusion, the board holds that the subject matter of claim 1 of the respondent's main request and auxiliary requests 1 to 10 lacks an inventive step, Article 52(1) with 56 EPC. Since these are the only requests, and all fail, the patent must be revoked pursuant to Article 101(3)(b) EPC.

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. H. A. Patin

A. de Vries

Decision electronically authenticated