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**Datasheet for the decision  
of 30 September 2022**

**Case Number:** T 0438/20 - 3.2.04

**Application Number:** 12780611.5

**Publication Number:** 2768363

**IPC:** A47J37/06, F24C7/08

**Language of the proceedings:** EN

**Title of invention:**  
BROWNING CONTROL FOR AN OVEN

**Patent Proprietor:**  
Illinois Tool Works Inc.

**Opponent:**  
Rational Aktiengesellschaft

**Headword:**

**Relevant legal provisions:**  
EPC Art. 56  
RPBA 2020 Art. 13(2)

**Keyword:**  
Inventive step - (no)  
Amendment after summons - exceptional circumstances (no)

**Decisions cited:**

**Catchword:**



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Case Number: T 0438/20 - 3.2.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.04**  
**of 30 September 2022**

**Appellant:** Rational Aktiengesellschaft  
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**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted on 19 December 2019 rejecting the opposition filed against European patent No. 2768363 pursuant to Article 101(2) EPC.**

**Composition of the Board:**

**Chairman** A. de Vries  
**Members:** J. Wright  
K. Kerber-Zubrzycka

## **Summary of Facts and Submissions**

- I. The appeal was filed by the appellant (opponent) against the decision of the opposition division to reject the opposition filed against the patent in suit.
- II. The opposition division decided, amongst other things, that the subject-matter of claim 1 as granted involved an inventive step.
- III. The Board issued a communication in preparation for oral proceedings that were duly held on 30 September 2022.
- IV. The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed, auxiliarily that the decision under appeal be set aside and the patent be maintained on the basis of auxiliary request 1, filed with letter dated 26 August 2022.

- V. Claim 1 of the main request reads as follows:

"A cooking controller (40) for use in an oven (10) including a first energy source (20) providing primary heating of a food product placed in the oven (10) and a second energy source (30) providing browning for the food product, the cooking controller (40) operably coupled to the first and second energy source (30) s [sic] and comprising processing circuitry (100) configured to enable an operator to make a browning control selection via a user interface (140) of the

oven (10) by providing operator instructions to a control console (200, 300, 364, 370, 372) rendered at the user interface (140), wherein the browning control selection provides control parameters to direct application of heat to the food product via the second energy source (30), characterized in that the control console (200, 300, 364, 370, 372) is one of a plurality of different control console screens presented to the operator via the user interface (140) that is selected based on a cooking mode of the oven (10), wherein the cooking mode is one of a first mode in which the operator is enabled to select multiple ones of the control parameters including air temperature, air speed and time, and a second mode in which the operator is enabled to select a browning level and the control parameters are automatically determined based on the browning level selected."

VI. In the present decision, reference is made to the following document:

E1: US 2009/0134151 A1

VII. The appellant-opponent's arguments regarding the deciding issues can be summarised as follows:

The subject matter of claim 1 of the main request differs from E1 if at all then only in the penultimate claim feature, F7. E1 with the skilled person's general knowledge takes away inventive step of claim 1. Starting from E1, the objective technical problem formulated by the Board in its communication corresponds to the one formulated by the appellant in its appeal grounds. Auxiliary request 1 is late filed and should not be admitted into the proceedings.

VIII. The respondent-proprietor's arguments regarding the deciding issues can be summarised as follows:

The subject matter of claim 1 differs from E1 in both the penultimate and final claim features, F7 and F8, and involves an inventive step starting from E1. The objective technical problem formulated by the Board in its communication was a surprising development in the proceedings that justifies the admittance of auxiliary request 1.

### **Reasons for the Decision**

1. The appeal is admissible.

2. Background

The invention relates to ovens that can cook food with various amounts of browning and in particular to a cooking controller for such an oven. Combination ovens are known. These typically include a primary energy source - such as microwaves - for heating a food product and a second energy source - such as hot air - for browning the food (see paragraphs [0001] to [0003] and claim 1). The controller of the invention has a user interface that enables the operator to decide how much to brown the food. In a first cooking mode the operator can select multiple control parameters including air temperature, air speed and time, for example to achieve a desired browning level. In a second mode the operator selects a browning level and the parameters are determined automatically.

3. Interpretation of certain features of claim 1

3.1 The last feature of claim 1 (referred to by the parties as F8) defines a second cooking mode in which the operator is enabled to select a browning level and the control parameters are automatically determined based on the browning level selected. The appellant-opponent has argued that the control features that are automatically determined are all of air temperature, air speed and time. The Board disagrees.

Claim 1 introduces the generic idea of *control parameters* at the end of the pre-characterising portion: *the browning control selection provides control parameters to direct application of heat to the food product via the second energy source*. In the penultimate claim feature (F7), a first cooking mode is defined in which the operator is enabled to select *multiple ones of the control parameters* including air temperature, air speed and time. This feature first mentions control parameters in general using the definite article (*the control parameters*), so these can but be the generic parameters introduced in the pre-characterising portion. The feature then goes on to specify parameters which are operator selectable in this first cooking mode.

The next and final claim feature (F8) defines a second cooking mode using the definite article [the] to define *control parameters* which, in this mode, are determined automatically. In the absence of further specification, the skilled person will not consider these parameters as limited to the operator selectable parameters of feature F7. Rather, the Board holds that they will understand F8 to refer to the same generic control parameters introduced in the pre-characterising portion and referred to in the first part of feature F7.

4. Main request, claim 1, inventive step with respect to E1 and the skilled person's general knowledge
- 4.1 E1 discloses a cooking controller (see abstract) for use in an oven. The oven has a first energy source for primary cooking and a second energy source for browning (see paragraph [0028]). The oven controller has processing circuitry (see paragraph [0076] - central processor) that enable an operator to make a browning control selection (see for example paragraphs [0150] and [0151]). The operator does so via a user interface with instructions rendered on a control console (see for example paragraph [0071] and [155] with figures 14 and 15) which show touch screen displays, including a browning level vertical control bar. Thus E1's browning control selection provides control parameters to direct application of heat to food via the second energy source and the control console is one of a plurality of screens presented to the operator.
- 4.2 Contrary to how the respondent-proprietor has argued, the Board considers that E1 discloses the last claim feature F8 (second cooking mode in which the operator can select a browning level and control parameters are automatically determined accordingly). As already touched upon, E1, paragraphs [0151] to [0155] with figure 14, discloses that the operator can select a browning level. That this selection is applied to a product that has undergone a generic cooking cycle rather than cooking from scratch (cf. paragraph [0153], first sentence) has no bearing on whether E1 anticipates feature F8, since claim 1's cooking modes are not restricted to ones that cook food from start to finish. Moreover, bearing in mind that the term *control parameters* is to be interpreted generically in feature



F8, the Board considers that E1 discloses that when the operator sets a [finish] browning level, such control parameters are determined accordingly: For example, paragraph [0152] explains that the browning level set by the operator determines the blower capacity for a predetermined time. Therefore, E1 discloses feature F8.

4.3 Turning now to the penultimate claim feature F7 (first cooking mode in which the operator is enabled to select *multiple control parameters* including air temperature, air speed and time), the Board agrees with the respondent proprietor that, whichever parameters the operator actually sets in this mode the controller must be adapted so that they have *the possibility* of setting all the specific parameters (air temperature, speed and time). In the Board's view, E1 discloses a first cooking mode in which the operator can set air temperature and the time of its application but not the air speed (see paragraph [0152]). Therefore, the subject matter of claim 1 differs from E1 in that, in the first cooking mode, the operator is enabled to also set the *air speed*.

4.4 Based on this difference, the opposition division (see impugned decision, reasons 4.3) formulated the objective technical problem as being to enable food to brown without drying out. As the Board explained in its communication, it disagrees with this formulation because the patent does not disclose this effect as being associated with enabling the operator to select air speed: paragraphs [0003] and [0011] only mention a drying problem as being generally solved by the invention.

Contrary to how the respondent proprietor has argued, the Board considers that E1 already discloses an

[automatic] adjustment of air speed. Although paragraph [0152] speaks of increasing browning using increasing increments of *blower capacity* (e.g. 20%, 40%, 60%, 80% etc.), in the context of E1's preferred *variable speed blower* providing the desired airflow (see paragraph [0128]) the skilled person will understand the increments of blower capacity in paragraph [0152] to equate to air speed increments. Therefore, the Board considers the technical effect of the difference to be merely one of giving the operator the possibility of manually setting a control parameter that E1 sets automatically. In other words it gives the operator an additional way of interacting with the oven to control browning. The problem can therefore be formulated as, how to modify E1 to further improve operational versatility.

- 4.5 Therefore, the question of inventive step turns on whether it would be obvious for the skilled person to solve this problem using their general knowledge by enabling the operator to select air speed (blower capacity) in addition to the air temperature and time selections E1 already allows the operator. In the Board's view the answer is yes.
- 4.6 In accordance with established jurisprudence (see Case Law of the Boards of Appeal, 10th edition, 2022 (CLBA) the mere automation of functions previously performed by human operators is in line with the general trend in technology and thus could not be considered inventive. This means that the idea that what can be done manually can generally also be done automatically belongs to the skilled person's general knowledge. By the same token they will know that the opposite is also true.

4.7 Whilst the general trend in technology may well be to increase the level of automation, in the present case the objective technical problem is to improve *operational versatility*, in other words to give the operator greater control. With the skilled person's mind focused on this and with their knowledge that E1 in paragraph [0152] already considers that certain parameters can either be automatically or manually set, the Board holds that the skilled person, who wants to improve operational versatility, will as a matter of course modify E1's oven controller by giving the operator the further option of manually selecting the air speed, in addition to its manually selectable air temperature and time control parameters. They will therefore arrive at the subject matter of claim 1 as a matter of obviousness.

In this regard, the Board is not convinced by the respondent-proprietor's argument that the modification would be counter intuitive because the thrust of E1 is to automate cooking. Whilst it may well be that E1 is mainly concerned with pre-defined cooking programmes (see abstract), it also teaches that the operator can select temperature and time browning control parameters, so it would be entirely consistent with this teaching to allow them to additionally set the air speed parameter. This is all the more true since paragraph [0152] explains blower capacity (air speed) to be the preferred basic parameter for influencing browning in the automatic mode, however widely spaced the example blower capacity increments may be.

Likewise the Board is not persuaded by the respondent-proprietor's argument that, making the operator select three interdependent [browning] control parameters would make the browning adjustment too complex for the

operator. Whatever complexity might be involved in selecting air speed, air temperature and time at once, claim 1 does not require this. It merely defines that *the operator is enabled to select multiple ones* of these, so, for example they can select just two to influence browning. Therefore, the complexity argument is moot.

- 4.8 For all these reasons, the Board considers that the subject matter of claim 1 lacks inventive step. Therefore, the main request must fail.
5. Auxiliary request 1, admissibility, Article 13(2) RPBA 2020
- 5.1 Auxiliary request 1 was not filed with the respondent proprietor's reply to the appeal but only after the summons and the Board's communication had been issued. It therefore constitutes an amendment to the respondent-proprietor's case under Articles 13(1) and (2) RPBA 2020 and its admittance is subject to the Board's discretion. According to Article 13(2) RPBA 2020, such amendment shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
- 5.2 The Board notes that the issue of inventive step starting from E1 with a single differing feature (air speed setting) and in combination with the skilled person's general knowledge was dealt with by the opposition division in the impugned decision (section 4) and objected to by the appellant from the outset of the appeal proceedings (see its grounds of appeal pages 15 and 16). In the Board's view, the appropriate time for the respondent to have addressed this issue with an

auxiliary request would have been with its reply to the appeal, Article 12(3) RPBA 2020.

- 5.3 The respondent-proprietor argued that the Board's formulation of the objective technical problem in its communication differed from that formulated in the impugned decision and this was a surprising development in the proceedings that constituted an exceptional circumstance justifying admittance of auxiliary request 1. The Board disagrees.

The problem formulated by the Board (see communication, point 5.2) was to *improve operational flexibility*. Whilst it is true that this problem is different from the one formulated by the opposition division in its decision (see point 4.3) it is akin to the one formulated by the appellant-opponent in its appeal grounds (see sentence bridging pages 15 and 16). This problem can be summarised as achieving a [more] *precise browning adjustment* in the cooking mode in which the operator can set the time and temperature parameters, which, in the Board's view, implies offering the operator *improved flexibility* when setting browning.

Thus, the objective technical problem formulated by the Board in its communication was not fundamentally different from the one on file from the start of the appeal proceedings and so it should not have come as a surprise to the respondent-proprietor. Therefore, the Board saw no exceptional circumstances that would have justified admittance of auxiliary request 1 filed for the first time after the Board had issued its communication. For these reasons, the Board decided not to admit it into the proceedings, Article 13(1) and (2) RPBA 2020 with Article 114(2) EPC.

6. Since, contrary to the decision's finding, the main request fails for lack of inventive step, Article 56 EPC the decision must be set aside. As, moreover, auxiliary request 1 is not admitted into the proceedings, the Board must revoke the patent in accordance with 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:



G. Magouliotis

A. de Vries

Decision electronically authenticated