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# D E C I S I O N
# of 15 July 1997

**Case Number:** T 0499/95 - 3.2.4

**Application Number:** 89202475.3

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**IPC:** A47J 31/52

**Language of the proceedings:** EN

**Title of invention:**
Coffee brewing apparatus

**Patentee:**
Philips Electronics N.V.

**Opponent:**
Braun Aktiengesellschaft

**Headword:**
-

**Relevant legal provisions:**
EPC Art. 56

**Keyword:**
"Inventive step - yes"

**Decisions cited:**
-

**Catchword:**
-

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Case Number: T 0499/95 - 3.2.4

# D E C I S I O N
## of the Technical Board of Appeal 3.2.4
## of 15 July 1997

**Appellant:** (Opponent)
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**Representative:**
-

**Respondent:** (Proprietor of the patent)
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**Decision under appeal:**
**Interlocutory decision of the Opposition Division of the European Patent Office posted 21 April 1995 concerning maintenance of the European patent No. 0 362 954 in amended form.**

Composition of the Board:

Chairman: C. A. J. Andries
Members: H. A. Berger
J. P. B. Seitz

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal, received on 14 June 1995, against the interlocutory decision of the Opposition Division, dispatched on 21 April 1995, on the amended form of the patent No. 362 954. The appeal fee was also paid on 14 June 1995. The statement setting out the grounds of appeal was received on 25 August 1995.

Opposition was filed against the patent as a whole having regard to Article 100(a) EPC (novelty and inventive step).

The decision of the Opposition Division was based on Claim 1 filed during the oral proceedings on 14 March 1995 and took into account the following prior art documents:

D1: EP-A-0 171 619
D2: DE-U-7 422 340
D5: EP-A-0 055 610
D6: JP-Y-61-5215

II. Oral proceedings were held on 15 July 1997 during which the Respondent (Proprietor of the patent) filed new claims 1 to 5 and an amended page 2 of the description.

III. Claim 1 reads as follows:

"A coffee brewing apparatus comprising a filter chamber for brewing coffee, a water tank (27), a heater (8) for heating water delivered from the water tank (27) and providing hot water to the filter chamber, and a main power supply switch (2) having a switch function by which an "on"-state and an "off"-state are alternately

selected in response to a manual operation (3) of the main power supply switch and with means (4,5) to release said "on"-state in response to an electrical releasing signal."

IV. The Appellant (Opponent) argued that the apparatus according to the new Claim 1 lacks novelty having regard to document D1 since this document discloses means to release the "on"-state in response to an electrical releasing signal, in addition to all the other features of the impugned Claim 1. Such a means for instance is the switch S2.

With regard to inventive step the Appellant brought forward four different arguments.

Firstly, he is of the opinion that the subject-matter of Claim 1 is not patentable because of the disclosure of document D6, which he considers as the closest prior art document. Although the manually actuated power switch (13) in this known apparatus is only provided in one of the electric sub-circuits it controls the relay switch (24) in the circuit with the electrical heater and the mill motor. If the safety of the apparatus must be improved then it is obvious for the skilled person to provide the "on"- and "off"-switch (here switch 24) in a position in the circuits in which all power is switched off to the apparatus to prevent overheating of the electrical elements of the coffee brewer and therewith the danger of fire. The safety aspect often depends on laws of a government which might make such safety switching devices obligatory. Such laws may already exist in USA or may be brought in, in the near future.

Secondly, the apparatus of Claim 1 would not involve an inventive step because of the disclosure of document D6 in combination with document D2. Document D2 discloses an apparatus with a main power switch (3 or 10) having a switch function by which an "on"-state and an "off"-state are alternately selected in response to a manual operation of the main power supply switch which has means (2) to release said "on"-state in response to a releasing signal. It clearly describes this switch as an "on" switch ("Einschalter" page 5, lines 3 to 5) to connect and as an "off" switch ("Ausschalter 10", page 6, lines 4 to 8) to disconnect the whole apparatus to or from the electrical power source. According to the Appellant such a switch is usually manually actuated to give the user the possibility of switching it on and off as he wishes. Using the idea of document D2 in the apparatus of document D6, which comprises several electronically controlled elements, it would be obvious to provide a manually operated "on" and "off" main power supply switch with means to release the "on"-state in response to an electric releasing signal.

Thirdly, the apparatus of Claim 1 would be obvious having regard to document D1, which discloses a coffee brewing apparatus with the usual features of such an apparatus, such as a filter chamber, water tank and heater, and with a manually operable main power supply switch and an electrically controlled switch (S2, S22) to finally switch off the heater circuit. If an improvement of safety is demanded then it would be obvious to position this electrically controlled switch in the main power supply line to switch off the whole apparatus with all the electrical means which could cause a fire in the case of overheating.

Fourthly, the subject-matter of Claim 1 would not involve an inventive step having regard to the teaching of document D1 and the teaching of document D2.

Document D1 discloses the use of a switch (S2, S22) which is actuated by an electrical signal initiated by a temperature signal from the heater to disconnect the electrical heater from the electric power source, and document D2 discloses the automatic disconnection of the whole apparatus by a switch actuated by the temperature of the heater. The combination of both teachings would lead to the subject-matter of Claim 1.

Although the Appellant no longer mentioned document D5 during the oral proceedings, he based his arguments on this document in his written statement.

In the opinion of the Appellant the subject-matter of Claim 1 therefore does not involve an inventive step.

V. The Respondent filed a new Claim 1 in the one part form since document D6, which also he considered as the most relevant prior art document, does not disclose a manually actuated main power supply switch for switching on and off the whole apparatus. He argued that document D2 discloses a main power supply switch which is only manually actuated to set it to its "on" position but is switched off by a thermal actuator (2). In the opinion of the Respondent neither document D2, nor document D1 alone, nor the combination of the teaching of these documents, nor the combination with the teaching of document D6 can lead to the coffee brewing apparatus according to Claim 1.

VI. Requests

The Appellant (Opponent) requested that the decision under appeal be set aside and the patent be revoked.

The Respondent (Patentee) requested that the decision under appeal be set aside and that a patent be maintained on the basis of Claims 1 to 5 as filed during the oral proceedings.

## Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

The maintained version of Claim 1 differs from the granted Claim 1 by the addition of the word "electrical" to the feature "releasing signal", by the one-part form and by linguistic adaptations. The one-part form of Claim 1 was selected since document D6, which is considered to be the most relevant prior art document, does not disclose a main power supply switch to switch on and off the whole apparatus. The content of Claim 1 was not changed by this reformulation to the one part form. The feature concerning the electrical releasing signal is based on the description on page 2, lines 47 to 49 of the granted patent corresponding to page 3, lines 13 to 18, of the originally filed description. The addition of this feature is a restriction of the granted Claim 1.

Claims 2 to 4 have been modified with respect to the granted claims 2 to 4 in order to make it clear that the releasing signal is an electrical one. The modified page 2 of the description has been adapted to the new Claim 1 and the new page 2a cites document D2 as background art.

These amendments are therefore admissible (Article 123 EPC). No question with regard to Article 123 EPC was raised by the Appellant.

3. *Novelty*

3.1 None of the cited documents discloses the combination of a main power supply switch to manually select an "on"-state and an "off"-state with means to release said "on"-state in response to an electrical releasing signal.

3.2 According to Claim 1 of the impugned patent the apparatus is provided with means to release said "on"-state in response to an electrical releasing signal. This "on"-state is the "on"-state of the main power supply switch and not of an additional switch or of a part of the electric circuit. Furthermore, it was made clear during the oral proceedings, firstly that the main power supply switch in the meaning of the patent has **only** two positions, either the "on"-position, or the "off"-position, and secondly that that switch can be brought manually into both positions. Any other interpretation is neither supported by the Claim 1 itself nor by the description of the patent.

3.3 In the apparatus of document D1 the switch (S2, S22) actuated by an electrical signal to finally switch off the heater is an additional switch provided in the heater circuit. The manually actuated main power supply switch (S) for the whole apparatus however, does not comprise means to release the "on"-state in response to an electrical releasing signal.

3.4 In the apparatus of document D6 the manually actuated main switch (13) is not provided to switch on and off the power supply to the whole apparatus and therefore is not the main power supply switch in the meaning of the patent in suit. A main power supply switch in this sense also is not provided in the apparatus of document D5. Although the switch (10) of the apparatus of document D2 switches off the whole coffee brewing apparatus, it is not provided with means to release the "on"-state of the switch in response to an electrical releasing signal.

3.5 The subject-matter of Claim 1 therefore is new in the meaning of Article 54 EPC.

4. *Closest prior art*

4.1 Document D6 which is discussed in the description and shown in Figure 3 of the patent in suit, describes a coffee brewing apparatus of the electronic type comprising a filter chamber for brewing coffee, a water tank (2), a heater (17) for heating water delivered from the water tank and providing hot water to the filter chamber, and a manually operable switch (13). This manually operable switch (13), having three positions, namely a TIMER-position, an OFF-position and an ON-position, is provided in a control part 7 of the apparatus to switch on and off a timer or to continuously supply electricity to the coffee maker. Furthermore, if this switch is in its "off"-state then power is still supplied to the timer display and can be supplied to the mill motor circuit. Document D6 also discloses thermal fuses (16, 19) in the mill motor circuit and in the heater circuit and gives therewith already a hint towards safety devices.

4.2 Although document D5 also discloses a coffee brewing machine of the electronic type with several electrical components such as a heater and a coffee mill, safety devices to prevent overheating of the electrical components outside the heater circuit are not described therein. The content of this document comes no closer than the teaching of document D6 to the subject-matter of the impugned Claim 1.

4.3 Document D1 discloses a coffee brewing apparatus comprising a filter cone (6) for brewing coffee, a water tank (1), a heater (4) for heating water delivered from the water tank (1) and providing hot water to the filter chamber, and a main power supply switch (S) having a switch function by which an "on"-state and an "off"-state are alternately selected in response to a manual operation of the main power supply switch (see column 4, lines 35 to 37). The electric circuit of this apparatus is closely related to the heater circuit. A safety device with regard to overheating of other electrical components than the heater circuit is not disclosed in this document.

4.4 Document D2 describes a coffee brewing apparatus with a main power supply switch (10, Figure 2) having a switch function with an "on"-state and an "off"-state. The switch is set to its "off"-state by a thermal element (2) at a predetermined temperature of the heater to switch off the power supply to the whole apparatus. Although the various elements of the coffee brewing apparatus, such as a filter chamber and a water tank, are not described in this document, these elements are usual in a coffee brewing apparatus. Document D2 however deals in particular with a system to indicate calcination of the apparatus. Again, no safety device

to prevent overheating of an electrical component outside the thermal control of the heater is disclosed in this document D2. In fact, the presence of increased temperature is taken as an unequivocal indication of calcination.

4.5 Since the coffee brewing apparatus of document D6 shows an unequivocally complete electric circuit, comprising several electrical components and shows safety devices for these components, such as fuses, it is considered as the most relevant prior art document.

5. *Problem and Solution*

5.1 Problem

The object of the invention is to provide a coffee brewing apparatus which is safer than a conventional apparatus.

5.2 Solution

With the means to release the "on"-state in response to an electrical releasing signal the whole apparatus can be cut off from the electric power supply automatically when a motor or a heater in the coffee brewing apparatus becomes abnormally heated, or when it is unnecessary to supply power to a heating plate when a definite time has elapsed after finishing the brewing.

6. *Inventive Step*

6.1 In the apparatus of document D6 the control part (7) comprises a timer display (8) that is provided to show the present time and the setting time (see pages 3 and 5). The provision of a main power supply switch which cuts off all electrical power would disturb the functioning of the clock and therefore, would not be

obvious in this apparatus. This is the same for the coffee maker of document D5, which is also provided with a clock section to set the current time (clock switch 29, see description page 7).

6.2 In the apparatus of document D1 a heater RH is controlled by a control switch S1 and a second switch S2 (Figure 3) is actuated with a time delay to switch off the heater and to keep the connection open (see column 4, lines 7 to 23). This second switch (S2, S22) is electrically controlled but is only provided in the heater circuit. No hint is given to actuate the main power supply switch (S) for the whole apparatus by an electrical signal. On the contrary, since an alarm device (A) is proposed in this system, which is actuated when the heater is switched off by the second switch (see paragraph bridging columns 5 and 6), it would not be obvious to take into consideration to switch off the whole power supply by the signal of the heater.

6.3 Document D2 describes a coffee brewing apparatus with a thermal element (2) to open the main power supply switch (10) at a predetermined temperature of the heater. This main power supply switch apparently is switched to its "on"-state by a manual operation. Details of this switching device are not described in this document D2 and therefore it cannot be proved therefrom whether the switch can be set to its "off"-state by a manual operation. According to the drawing (Figure 2) there might be a locking device (see the arrow above the thermal element 2 and the analogous representation of locking device 14 of Figure 3) to keep the switch open when it is switched to its open position by the thermal element (2), so that it might be necessary to release this locking device by a manual operation, which would also imply a reset function. However, this would not lead to a switch with means to

release the "on"-state in response to an electrical releasing signal but to a switch to release the "off"-state by a manual operation. Document D2 describes a device for indicating calcination and does not reveal either a safety problem with regard to several electrical components or its solution.

It is true that the main switch (in Figures 2 and 3: switch 10) in the device of document D2 is provided to switch off and on the whole coffee brewing apparatus, but this main switch is a partly mechanically operated thermo switch, which is not adapted to be actuated by signals of different electrical components. The system only comprises electrical devices (for instance indication lights) which are in close relation with the circuit of the heating device and which are switched off together with the heater at a predetermined temperature.

6.4 The available documents therefore do not suggest the idea of providing a manually operable main power supply switch which is suitable to be controlled by the electrical signals of different electrical circuits of a coffee brewing machine and to interrupt therewith the electrical power to the whole apparatus.

6.5 The Appellant maintained that the provision of a main power supply switch with a safety device to prevent overheating of the electrical components is an obvious step resulting from the requirements of the safety laws of a country. However, no evidence either to support this argument, or to show whether such a law exists or is in preparation was presented by the Appellant.

It may be that switches as presently claimed exist as such, however no evidence of the existence of such a switch in the technical field of coffee brewing machines or the like was presented. One can assume from

the cited state of the art that it is not obvious to provide a complicated and expensive switch, which is not only manually operable to an "on"-state and an "off"-state, but which is also provided with electrical releasing means, in the main power supply line of a machine with a simple heater circuit. In a more complicated coffee brewing machine with several electrical components however, it seems to be common practice to protect the sub-circuits of components, which tend towards the danger of overheating, separately by the provision of fuses. The separate provision of the safety means in the sub-circuits makes it possible to keep indication devices, such as time indicators, which are less prone to the danger of overheating, in connection with the power supply even if the other circuits are cut off. According to the available state of the art documents (see documents D1 and D6), it is more likely to provide a switch actuated by an electrical signal, such as a safety switch, in each of the respective sub-circuits.

The argument of obviousness with regard to the necessity of a common safety switch for the whole apparatus seems to be already based on the knowledge of the teaching of the patent in suit, and is considered by the Board to result from an ex-post facto analysis. Although such a teaching may seem prima facie to be obvious, no single proof or even indication of such a safety approach in the field of coffee brewing apparatus or the like has been brought forward.

Taking into account the arguments forwarded by the Appellant, the Board was not able to come to the conclusion that the present invention was obvious for a person skilled in the art.

7. Therefore, Claim 1 as presented during the oral proceedings on 15 July 1997 can be upheld according to Article 52(1) EPC.

## Order

**For these reasons it is decided that:**

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the European patent with the following version:

**Claims:** 1 to 5 filed during the oral proceedings on 15 July 1997.

**Description:** page 2 as filed during the oral proceedings on 15 July 1997,
pages 2a, 3 and 4 granted during the oral proceedings held on 14 March 1995.

**Drawings:** Figures 1 to 3 as granted.

The Registrar: The Chairman:

N. Maslin C. Andries