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D E C I S I O N
of 4 February 2005

Case Number: T 0766/02 - 3.2.4

Application Number: 93101244.7

Publication Number: 0553803

IPC: A47L 15/00

Language of the proceedings: EN

Title of invention:
Improved dishwashing machine

Patentee:
Indensit Company s.p.a.

Opponent:
AEG Hausgeräte GmbH

Headword:

-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty - yes"
"Inventive step - yes"

Decisions cited:

-

Catchword:

-



Case Number: T 0766/02 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 4 February 2005

Appellant:
(Opponent)

AEG Hausgeräte GmbH
Muggenhofer Strasse 135
D-90429 Nürnberg (DE)

Representative:

-

Respondent:
(Proprietor of the patent)

Indesit Company s.p.a.
Viale Aristide Merloni, 47
I-60044 Fabriano (AN) (IT)

Representative:

Eisenführ, Speiser & Partner
Patentanwälte Rechtsanwälte
Postfach 10 60 78
D-28060 Bremen (DE)

Decision under appeal:

Interlocutory decision of the Opposition
Division of the European Patent Office posted
20 June 2002 concerning maintenance of European
patent No. 0553803 in amended form.

Composition of the Board:

Chairman: M. Ceyte
Members: M. Hatherly
H. Preglau

Summary of Facts and Submissions

I. The opposition division's interlocutory decision to maintain the European patent No. 0 553 803 in amended form was posted on 20 June 2002.

The appellant (opponent) filed an appeal and paid the appeal fee on 23 July 2002, filing the statement of grounds on 29 October 2002.

II. Oral proceedings took place on 4 February 2005 with the appellant and the respondent (proprietor).

III. During the oral proceedings the respondent filed a new set of claims for the sole request, the independent claims reading:

"1. Dish-washing machine, comprising means for the selection and the control of a plurality of washing programs, each of said programs comprising one or more phases (pre-wash, washing, rinse, etc.), apt to be utilized preferably for the washing of domestic dishes, characterized by the fact of providing a program which is specifically designed for washing dishes dirty of fresh residues, said first specific program being selectable by a user through said selection and control means and comprising at least one initial pre-wash phase (PF1;PF1") at a low temperature immediately followed by a second pre-wash phase (PF2;PF2") at a low temperature, whereby said second pre-wash phase (PF2;PF2") at a low temperature is immediately followed by a hot washing phase (LC';LC") which is immediately followed by a hot rinsing phase (RC';RC")."

"11. Washing program, selectable by a user, for a dishwashing machine, for the removal from the dishes of fresh soil or residues, comprising in the given order the following phases:

- a first pre-wash phase at a low temperature (PF1;PF1"),
- a second pre-wash phase at a low temperature (PF2;PF2"),
- a hot washing phase (LC';LC"), immediately followed by
- a hot rinsing phase (RC';RC")."

IV. The following documents were referred to in the appeal proceedings:

D1: US-A-4 559 959

D2: US-A-4 673 441

D3: DE-A-3 921 422

D4: US-A-4 070 204

D5: EP-A-0 255 863

D6: "Anschluß Bedienungsanleitung AEG Favorit S"
H 246 256 500 0669/01

D7: "Anleitung Geschirrspüler AEG-Favorit Deluxe
electronic" H 248 290 100 0772/03

V. During the appeal proceedings the appellant objected that the invention was insufficiently disclosed, that

the claimed subject-matter was not new and that the claimed subject-matter was obvious. He offered a witness to prove that D6 and D7 were publicly available prior art. During the oral proceedings the appellant dropped the objections of lack of disclosure and lack of novelty and finished by relying solely on obviousness.

The respondent countered the appellant's arguments.

- VI. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of the sole request as filed during the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*
 - 2.1 The present claims 1 and 11 state that the specific program is selectable **by a user**. That the program is selected manually and not automatically is clear from the originally filed patent application and the patent specification as granted when read as a whole (e.g. column 1, lines 27 to 33 and column 5, lines 40 to 45 of EP-A-0 553 803).

2.2 The present claim 1 specifies that the two hot phases of claim 1 as granted are a hot washing phase and a hot rinsing phase. The present claim 11 specifies that the hot washing phase is immediately followed by the hot rinsing phase. This information is derived e.g. from the granted dependent claims 2 and 3 and from claim 9 of EP-A-0 553 803.

2.3 The modified claim 13 overcomes an Article 123 EPC objection as explained in section II.2 of the opposition division's decision.

2.4 The other claims, the description and the drawings remain as the granted specification.

2.5 The board therefore has no objections under Article 123(2) EPC to the present version of the patent specification. The independent claims 1 and 11 are reduced in scope compared to those granted so the board has no objections under Article 123(3) either. Moreover, the appellant announced during the oral proceedings that the changes to the independent claims were correct and that he had no objections under Article 123 EPC.

3. *Interpretation of claim 1*

3.1 Claim 1 as originally filed states that the fresh residues program comprises "at least one initial pre-wash phase (PF1;PF1)" at a low temperature immediately followed by a second pre-wash phase (PF2;PF2)" at a low temperature."

Lines 21 to 24 of page 5 of the description as originally filed state that the low temperature phases

(i.e. those specified in claim 1 as originally filed) are "followed by two hot phases, and eventually by a drying phase."

Thus, the respondent explained during the oral proceedings, the program of claim 1 as originally filed need not end after the two pre-washes but could continue with other steps e.g. washing and drying.

- 3.2 The respondent continued that the words "at least" in column 7, line 8 of the present claim 1 mean that there may be other steps in the first specific program (e.g. a drying step) but not that there may be another initial pre-wash phase. He added that the initial pre-wash phase is the very first step in the specific program for washing dishes dirty of fresh residues, this step being carried out at a low temperature and not being preceded by a hot pre-wash. Indeed, he stated, the basis of the invention is not needing a hot phase during pre-washing. The board agrees with the respondent's interpretation.

4. *Disclosure of the invention*

- 4.1 The appellant argued in the statement of grounds of appeal that the program steps were insufficiently defined in claims 1 and 11 (as granted) e.g. by including the relative terms "hot" and "cold".
- 4.2 The board commented in depth in section 6 of the communication accompanying the summons to oral proceedings on the terms "hot" and "cold" in claims 1 and 11. Column 4, line 57 to column 5, line 4 of the description states that the washing phase may be

carried out at 55°C. The board notes that 55°C is an example of "hot" but that there is nothing in the patent specification to indicate that 55°C is the lower temperature limit of "hot".

Regarding the steps themselves, while the granted claim 1 referred in general terms to "two hot phases", the present claim 1 specifies a hot washing phase and a hot rinsing phase. The present claim 11 specifies that the hot washing phase is immediately followed by the hot rinsing phase.

4.3 The board thus finds that the patent in its present form satisfies the requirements of Article 83 EPC. Moreover the appellant stated in the oral proceedings that he dropped his Article 83 EPC objections.

5. *Novelty - claims 1 and 11*

5.1 D1 and D2

5.1.1 D1 and D2 are very similar so only D1 will be discussed.

5.1.2 D1 has a plurality of washing programs, see column 10, lines 61 to 63. One of three programs is chosen manually, see column 10, lines 61 to 63, using an operator-actuated switch means, see column 9, lines 11 to 15. Once this program is chosen it is modified by a dishwasher control means depending on the state of a pressure switch 165 which is responsive to the particulate soil concentration in the soil collection chamber. Thus if the "wash" program is chosen, how it is actually carried out depends on what happens to the pressure switch 165 during the pre-wash or pre-washes.

5.1.3 One such variation of the "wash" program shown in Figure 8 is a hot pre-wash 250, 252; followed by a cold pre-wash 260, 262; followed by a cold pre-wash 266, 268; followed by a hot wash (line 4 of box 258); and followed by a hot wash (line 7 of box 258).

5.1.4 However, as just stated, the very first step of this program is a hot wash 250, 252 whereas the present claims 1 and 11 call for an initial or first pre-wash phase at a low temperature.

5.1.5 Moreover this variation of the program is selected according to the state of the pressure switch i.e. by the dishwasher itself whereas the present claims 1 and 11 specify that the program is selectable by the user.

Thus the subject-matter of claims 1 and 11 is novel over the disclosure of D1 (and also of the similar D2).

5.2 D4

5.2.1 Claim 2 of D4 sets out, when read with claim 1, the following steps:

a b c a cold pre-rinse,

a b c a (repeated) cold pre-rinse,

d circulating a small quantity of cold wash liquid,

e to i circulating a full quantity of hot wash liquid,

j circulating a small quantity of hot rinse water,

k l m circulating a full quantity of cold rinse water,

n circulating a small quantity of cold rinse water,

o to s circulating a full quantity of hot rinse liquid, and

t air drying.

- 5.2.2 If the first wash phase in D4 is seen as a phase from starting to fill the machine to draining the machine, then the first wash phase is steps d to i and this is a hot wash phase. Then, to be consistent, the first rinse phase would need to be seen as steps j to m which is a cold rinse.

In this case, the hot wash d to i in D4 is followed by a cold rinse j to m which differs from the present claims 1 and 11 where the hot washing phase is immediately followed by a **hot** rinsing phase.

- 5.2.3 If, on the other hand, the first wash phase in D4 is seen as merely the step d then this a cold wash which is followed by a hot wash e to i. Then, to be consistent, the first rinse would need to be seen as step j which is hot, followed by a cold rinse k to m.

In this case, the second cold pre-rinse a to c in D4 is followed by a cold wash d. This differs from the present claims 1 and 11 where the second pre-wash phase at a low temperature is immediately followed by a **hot** washing phase.

5.2.4 Thus the subject-matter of claims 1 and 11 is novel over either interpretation of the disclosure of D4.

5.3 D6 and D7

5.3.1 It has not been proven that D6 and D7 are publicly available prior art. The board will now analyse whether they would be novelty-destroying if they were indeed prior art.

5.3.2 Looking at program 2 on page 12 of D7, step "1. Vorspülen kalt" corresponds to the initial or first pre-wash phase (PF1;PF1") at a low temperature" in the present claims 1 and 11. This is immediately followed by step "2. Vorspülen kalt" which corresponds to the claimed "a second pre-wash phase (PF2;PF2") at a low temperature". This is immediately followed by step "Reinigen (m. Reiniger ca. 65°C)" which corresponds to the "hot washing phase (LC';LC")".

However the following step in D7, "Zwischenspülen (m. Klarspüler) ca. 30°C", is at a low temperature whereas claims 1 and 11 call for a **hot** rinsing phase. Thus the cited and claimed programs differ. This also applies to program 3 on page 12 of D7 and program 2 on page 19 of D6.

5.3.3 Program 3 on page 19 of D6 has no pre-wash, it starts directly with a cold wash using a cleaning agent. The present claims 1 and 11 however call for a **hot** washing phase. The second hot phase in the cited program is drying whereas claims 1 and 11 call for a hot washing

phase and a hot rinsing phase i.e. two hot liquid phases.

5.3.4 Also program 5 on page 12 of D7 has no pre-wash, starting directly with a cold wash using a cleaning agent. Moreover there is only one hot liquid phase. It follows that the conclusions in the above section 5.3.3 also apply here.

5.3.5 Thus even if D6 and D7 were publicly available prior art, they would not destroy the novelty of the subject-matter of the present claims 1 and 11.

5.4 Accordingly none of the documents on file discloses all the features of the present claims 1 and 11. Indeed during the oral proceedings the appellant withdrew his objection of lack of novelty.

The board thus finds the subject-matter of the present claims 1 and 11 novel (Articles 52(1) and 54 EPC).

6. *Inventive step - D4 as the starting point*

6.1 The closest prior art is D4 with its claim 2 program of cold pre-wash a to c, cold pre-wash a to c, hot wash d to i, first cold rinse j to m, second hot rinse n to s, and drying t.

6.2 The appellant argued that the problem facing the skilled person is to develop a new program for washing dishes when the residues are still fresh which saves energy, time and detergent, see the paragraph bridging columns 2 and 3 of the patent specification. The

skilled person knows he has to optimise the program to achieve a reduction of use of resources.

- 6.3 Lines 36 to 44 of column 2 of D5 state that if the soiling in the cleaning cycle is low, then the number of the following rinse cycles can be reduced, either by rinsing over the whole time of all rinse cycles with the same liquid filling or by jumping over rinse cycles. Reducing the changes of water leads to a saving of water and, adds column 5, line 53 to column 6, line 4, a saving of energy for the pump and a shorter program.
- 6.4 Accordingly, argued the appellant, the skilled person would know that, to save resources, he could omit the first cold rinse j to m in the program of D4 and thus arrive at the claimed dish-washing machine and washing program.
- 6.5 The cited passages are however a generalisation of the teaching of D5. When the skilled person reads them in context he will see that the determination of whether rinse cycles are to be omitted is decided automatically by the dishwasher itself, namely by a sensor located at one of various places in the machine to measure one of various parameters, see column 4, lines 1 to 32. There is no disclosure and no hint in D5 that it is the user who chooses to omit rinse cycles.
- 6.6 D1 would be of no more help to the skilled person than D5. D1 deals with providing or omitting pre-washes not a rinse cycle. Moreover the decision on how many pre-washes are to be carried out is taken by the machine not by the user.

- 6.7 Accordingly neither the combination of teachings of D4 and D5 nor the combination of teachings of D4 and D1 could lead to the dishwashing machine of the present claim 1 and washing program of the present claim 11 where the fresh residues program is selected by the user.
- 6.8 Moreover, the drafter of D4 included the first cold rinse j to m in the sole independent claim and so considered it as essential (unlike the second cold pre-wash a to c which he recognised as being optional by putting it in claim 2). This points away from it being obvious to omit the first cold rinse j to m of D4.
- 6.9 Further even if it were to be accepted that the skilled person **could** have combined the teachings of D4 and D5 (or D4 and D1) in the ways put forward by the appellant, the board does not see why he **would** have done this in the absence of the disclosure of the present patent setting out the simplified program and explaining that it is chosen manually. The problem set out in the paragraph bridging columns 2 and 3 of the patent specification was not known to the skilled person before the priority date and impermissibly points the skilled person towards the solution.
- 6.10 The correctly formulated problem is to provide a dishwashing machine and a washing program which use resources such as detergent, time and heat more efficiently.
- 6.11 This problem is solved by the present dishwashing machine and washing program when dishes dirty merely of fresh residues are to be cleaned essentially:

- because the two pre-washes at a low temperature are adequate to remove the freshly deposited soil mechanically without using the energy to produce the higher temperature of a hot pre-wash;
- because the residues on the dishes are fresh, they are easier than normal to remove, thus at the end of the two pre-washes the dishes are clean enough to enable less detergent to be used during the washing phase; and
- because a hot rinsing phase immediately follows the hot washing phase, the heat energy present in the dishes and machine after the hot washing phase is not wasted by following a hot washing phase by a cold rinsing phase only then to follow this by a hot rinsing phase.

In summary, the inventive concept is to avoid the energy loss that would be caused by going from hot to low temperature and back again to hot.

7. *Inventive step - D3 as the starting point*

7.1 The Figure of D3 shows a program with two pre-washes with no heat, a wash with heat, a pre-rinse with no heat and a final rinse with heat.

7.2 If the skilled person were to choose D3 as the starting point, then, to come towards the presently claimed machine and program, it would be necessary for him to omit the pre-rinse with no heat. However the board does not see where he might receive the hint to do this and

why he would realise that this would be of benefit when washing dishes dirty of fresh residues. D5 would be of no use to him, for the reasons set out in sections 6.2 to 6.5 and 6.7 above. Moreover the problem to be solved by D3, see lines 42 to 45 of column 1, namely to use water of the lowest hardness for the final rinse, is so far removed from that dealt with in D5 that the board does not see that the skilled person would consider the two documents together.

8. *D6 and D7*

8.1 The board found in section 5.3 above that D6 and D7 could not destroy the novelty of the claimed subject-matter. These documents were not mentioned by the appellant in the appeal proceedings in connection with inventive step and the board does not see that, even if they were publicly available prior art, that they would contribute to demonstrating that the claimed subject-matter would be obvious to the skilled person.

8.2 Accordingly it is unnecessary for the board or the opposition division to investigate the public availability of D6 and D7.

9. *Inventive step - conclusion*

The board thus cannot see that any of the prior art documents relied upon in the appeal proceedings (taken singly or in combination) would lead the skilled person in an obvious manner to the subject-matter of the present claims 1 and 11.

The board thus finds that the subject-matter of claims 1 and 11 is not obvious (Articles 52(1) and 56 EPC).

10. Thus claims 1 and 11 are patentable as are claims 2 to 10, 12 and 13 which are dependent thereon. Accordingly the patent can be maintained amended on the basis of these claims.

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 patent on the basis of the following documents:

claims 1 to 13 as filed during the oral proceedings,

description: columns 1 to 6 of the patent specification,

drawings: Figures 1 and 2 of the patent specification.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte