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Datasheet for the decision of 11 October 2013

Case Number: T 0066/11 - 3.2.03

Application Number: 01112780.0

Publication Number: 1167902

IPC: F25D 29/00, H05K 5/02, H01R 13/66

Language of the proceedings: EN

Title of invention:
Central unit for grouping electronic components of refrigerators, freezers and similar appliances

Patent Proprietor:
WHIRLPOOL CORPORATION

Opponent:
BSH Bosch und Siemens Hausgeräte GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 84, 56

Keyword:
"Admissibility of late filed documents (yes)"
"Clarity (yes)"
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0066/11 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 11 October 2013

Appellant: (Opponent)
BSH Bosch und Siemens Hausgeräte GmbH
Postfach 830101
D-81701 München (DE)

Representative:
Grundmann, Dirk
RIEDER & PARTNER
Patentanwälte - Rechtsanwalt
Postfach 11 04 51
D-42304 Wuppertal (DE)

Respondent: (Patent Proprietor)
WHIRLPOOL CORPORATION
2000 M—63
Benton Harbor
Michigan 49022 (US)

Representative:
Guerci, Alessandro
Whirlpool Europe S.r.1.
Patent Department
Viale G. Borghi 27
I-21025 Comerio (VA) (IT)

Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted on 25 November 2010 concerning maintenance of European patent No. 1167902 in amended form.**

Composition of the Board:

Chairman: U. Krause
Members: C. Donnelly
I. Beckedorf

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division, posted on 25 November 2010, maintaining European Patent no. EP-B-1167902 in amended form.

II. The opponent (hereinafter: the "appellant") filed a notice of appeal on 11 January 2011 and paid the fee on the same day. The grounds of appeal were received on 16 March 2011.

In support of its case the appellant referred to the following documents:

AN2: DE 4412 870 A1;
AN3: US 3 571 779;
AN10:DE 197 47 256 C1;
AN10a: DE 297 19 014 U1;
AN11: DE 197 34 838 C1;
AN12: DE 197 53 669;
AN13: DE 34 03 487.

III. The respondent replied to the appeal by letter of 27 July 2011. It requested that the appeal be dismissed, or alternatively that the patent be maintained on the basis of one of the auxiliary requests 1 to 3 filed with the same letter.

IV. In a communication dated 23 April 2013, pursuant to Article 15(1) RPBA annexed to the summons to oral proceedings, the Board informed the parties of its provisional opinion. In particular, the Board indicated that AN10 appeared to be very relevant and therefore it intended to admit this document into the proceedings.

V. By letter of 10 September 2013 the Respondent filed a new first auxiliary request and requested that the auxiliary requests of 27 July 2011 be renumbered 2 to 4 accordingly.

VI. Oral proceedings were held on 11 October 2013. The respondent (patent proprietor) withdrew all its previous requests and defended the patent only on the basis of the (new) main request filed during the oral proceedings. In conclusion of their cases the parties made the following requests:

The appellant (opponent) requested that the decision under appeal be set aside and that the European patent No. 1167902 be revoked.

The respondent (patent proprietor) requested that the, in setting aside the decision under appeal, the patent be maintained in amended form on the basis of the set of claims filed as main request during the oral proceedings.

VII. Claim 1 according to the main request filed at the oral proceedings reads:

"Refrigerator, freezer and similar appliance, having a set of electrical equipment such as fans, controls and the like, at least one compressor, probes for example for temperature, and a central unit grouping electronic and electrical components of these, characterized in that such central unit comprises an openable box casing (1) containing at least one electronic circuit in the form of a card which on the basis of data provided by

the probes controls one or more of the aforesaid components, said card (2) being provided with electrical connection means (4) and socket means (16) for powering by the mains, wherein the socket means (16) are flanked by hook-shaped appendices (17,18) that are engageable with an angle plug (19) to retain it, whereas they allow free engagement/disengagement of a straight plug."

VIII. Both parties made reference to the following feature analysis of claim 1:

1. Refrigerator, freezer and similar appliance,

2. having a set of electrical equipment such as fans, controls and the like,

3. at least one compressor,

4. probes for example for temperature,

5. and a central unit grouping electronic and electrical components of these,

6. characterized in that such central unit comprises an openable box casing (1)

7. containing at least one electronic circuit in the form of a card

8. which on the basis of data provided by the probes controls one or more of the aforesaid components,

9.said card (2) being provided with electrical connection means (4)

10. and socket means (16) for powering by the mains

wherein the socket means (16) are flanked by hook-shaped appendices (17,18) that are engageable with an angle plug (19) to retain it, whereas they allow free engagement/disengagement of a straight plug.

IX. The arguments of the parties relevant to the decision can be summarised as follows:

Appellant

Admissibility of documents AN10, AN10a, AN11, AN12 and AN13

These documents should be admitted into the proceedings since they are prima facie highly relevant and were cited in response to amendments based on features taken from the description and filed for the first time during the oral proceedings before the opposition division. Thus, the documents were filed at the earliest possible occasion since, even if the opponent had been present at the oral proceedings, it would not have been in a position to file it at that time.

Clarity, Article 84

Claim 1 is not clear since the plugs do not belong to the device claimed yet the type of plug influences the form of the hook-shaped appendices since there is also a functional requirement to be fulfilled.

Inventive step

AN 2 is the most relevant prior art since this document describes a refrigerator, freezer and similar appliance, provided with a central unit grouping electronic and electrical components and also deals with the problem of securing plugs with catch-mechanisms.

AN2 describes:

A refrigerator, freezer and similar appliance (see col. 1, lines 3 to 4), having a set of electrical equipment such as fans, controls and the like (see col. 1, lines 55 to 60), at least one compressor (see col. 1, line 30), probes for example for temperature (see col. 1, lines 39 to 40 and col. 3, line 30 "PTC (Thermoelement)" and a central unit grouping electronic and electrical components of these (see col. 2, lines 32 to 38),
wherein such central unit comprises an openable box casing (see col. 6, line 27 ("Verschlussdeckel" - "cover-lid") containing at least one electronic circuit in the form of a card (see col. 1, lines 57 to 58 "Logikschaltungen") which on the basis of data provided by the probes controls one or more of the aforesaid components (see col. 1, lines 36 to 44 - PTC control of compressor), said card being provided with electrical connection means (col. 2, lines 39,54 and 67 as well as col. 5, lines 33 to 34) and socket means for powering by the mains (see col.6, line 1).

Even if it is not accepted that AN2 discloses features 7 and 8, the skilled person would find it obvious to incorporate the electronic circuit card disclosed in AN10 to control the compressor of AN2 since a direct suggestion to that effect is given at col. 3, lines 27 to 30 where it is stated that compartments are provided in the central unit for housing electrical components such as the PTC and/or the compressor motor protection switch. Since there is no explicit disclosure in AN2 as to how the compressor is controlled the skilled person would see it as obvious to use the system of AN10 and place it with the other compressor control elements in the central unit.

AN2 further discloses a catch-mechanism employing sprung-hooks which snap into slots (40) provided in the central unit housing walls (24) in order to secure plugs (see col. 3, lines 64 to 66 and col. 6, lines 7 to 11 and figure 4). Thus, the skilled person finds a direct hint in AN2 to provide a catch-mechanism, particularly one using sprung-hooks, to secure plugs in position. The fact that in the mechanism according to AN2 the hooks are provided on the plug is of little importance since the skilled person is aware that the positions of the hooks and locking element on such catch-mechanisms are easily interchangeable. Equally, it is an obvious measure to ensure that plugs used in production testing are easily connected and disconnected. The mere arrangement and location of the hooks next to the socket does not justify the recognition of an inventive step.

Thus, the subject-matter of claim 1 does not involve an inventive step.

Respondent

Admissibility of documents AN10, AN10a, AN11, AN12 and AN13

These documents should not be admitted since they are all late filed and are not prima facie relevant.

Clarity, Article 84

An objection under Article 84 cannot be raised since the feature objected to was already in granted claim 3. Furthermore, claim 1 is clear since the skilled person would have no difficulty determining which hook-shaped appendices are capable of retaining conventional angle plug whilst allowing free engagement/disengagement of conventional straight plugs. Thus, there is no doubt as to the scope of protection.

AN2 does not disclose features 4,5,7 and 8 since the PTC is not a temperature probe providing data to anything and the device has no electronic card in the sense that it has no data controlling function, but only an electrical connection function. Further, AN2 does not disclose socket means flanked by hook-shaped appendices. On the contrary, the catching means are provided on the plug itself.

AN10 does not show features 2,5,7 and 8 since it only discloses a temperature controller which is not a central unit of a refrigeration appliance and does not comprise an electronic circuit in the form of a card. Further, the signals provided by the sensors 9 and 10

are not used for controlling components grouped in the temperature controller, but the compressor according to a set value temperature.

Therefore, the subject-matter of claim 1 meets the requirements of Article 56 EPC.

Reasons for the Decision

1. The appeal is admissible.

2. Admissibility of late filed documents

2.1 Documents AN10, AN10a, AN11, AN12 and AN13 were first filed with the grounds of appeal and are therefore late filed. However, they were cited in response to amendments made during the oral proceedings before the opposition division which were based on features taken from the description. Thus, they have been filed at the earliest possible occasion since even if the opponent had been present at the oral proceedings it would not have been in a position to file them at that time. Furthermore, AN10 is not only prima facie highly relevant to the subject-matter of claim 1 as maintained, but also to claim 1 of the present main request. Thus, this document at least is admitted into appeal proceedings.

3. Clarity, Article 84

3.1 The features objected to by the appellant were already specified in granted claim 3 and have not been substantially affected by other amendments made during

the opposition or appeal proceedings. Thus, an objection under Article 84 is not possible. Further, although the hook-shaped appendices are defined by reference to their functional relationship with two types of plug, namely an angle plug and a straight plug, both of which are not part of the claimed entity, a lack of clarity does not arise since not only are angle and straight plugs well known in the art, but also the location of the hook-shaped appendices in relation to the socket means is unambiguously defined. Thus, the skilled person would have no difficulty in understanding which arrangements of these appendices are capable of fulfilling the functional requirement of being engageable with an angle plug to retain it, whilst allowing free engagement/disengagement of a straight plug.

4. Inventive step, Article 56.

4.1 As stated by the appellant, AN 2 is the most relevant prior art since as well as relating to a refrigerator or similar appliance provided with a central unit grouping electronic and electrical components, this document also deals with the problem of securing plugs with catch-mechanisms.

4.2 The Board also agrees with the appellant's analysis of AN 2 in as much as it discloses:

a refrigerator, freezer and similar appliance (see col. 1, lines 3 to 4), having a set of electrical equipment such as fans, controls and the like (see col. 1, lines 55 to 60), at least one compressor (see col. 1, line 30), probes for example for

temperature (see col. 1, lines 39 to 40 and col. 3, line 30 "PTC (Thermoelement)" and a central unit grouping electronic and electrical components of these (see col. 2, lines 32 to 38),
wherein such central unit comprises an openable box casing (see col. 6, line 27 ("Verschlussdeckel" - "cover-lid") containing at least one electronic circuit (see col. 1, lines 57 to 58 "Logikschaltungen"), said circuit being provided with electrical connection means (col. 2, lines 31 to 40 and col. 5, lines 46 to 57) and socket means for powering by the mains (see col. 6, line 1).

4.3 However, the Board is of the opinion that AN2 does not directly and unambiguously disclose an electronic circuit in the form of a card which controls one or more of the components on the basis of data provided by the probes since the PTC controlled start-up function of the compressor works by a flat strip directly touching one or the other of two contact plates in the manner of a switch without any data being sent to an electronic circuit (see column 3, lines 32 to 37). The motor-protection switch works in a similar manner (see column 3, lines 37 to 40).

4.4 AN2 also does not disclose the feature wherein the socket means are flanked by hook-shaped appendices that are engageable with an angle plug to retain it, whereas they allow free engagement/disengagement of a straight plug.

4.5 The features relating to the electronic card and those relating to hook-shaped appendices solve different technical problems without there being any evident

synergy between them. Therefore they may be handled separately when using the problem-solution approach.

4.6 As regards the features relating to the electronic card, since there is no explicit disclosure in AN2 as to how the compressor (which is one of the "aforesaid components of feature 8) is controlled once the start-up phase is finished, the skilled person is faced with the problem of how to implement this indispensable function. Given this task, the skilled person would consult document AN10 since it describes a temperature control unit for use in a cooling appliance employing a vapour compression cycle. In particular AN10 provides a complete teaching as to how compressor control may be achieved (see column 4, lines 5 to 14) using an electronic circuit in the form of a card (5,6,7,8,14 see col. 4, lines 35 to 40) on the basis of data provided by temperature probes (9,10) in the same manner as that of the contested patent (see column 2, lines 12 to 16).

4.7 It would also be obvious for the skilled person to locate the system of AN10 with the other compressor control elements in the central unit since a direct suggestion to that effect is given at col. 3, lines 27 to 30 of AN2, where it is stated that compartments are provided in the central unit for housing electrical components such as the PTC and/or the compressor motor protection switch.

4.8 The technical effect of the hook-shaped appendices is to allow the straight plug, used during factory testing, to be inserted and removed quickly whereas the angle plug, used to connect the appliance to the mains in use,

is retained in position by the hook-shaped appendices. Therefore, the objective technical problem to be solved is one of how to speed up the testing process during production (see paragraph [0014] of the contested patent) whilst at the same time maintaining the reliability and safety of the appliance in use.

4.9 The claimed solution is not disclosed or suggested in any of the available prior art documents. In particular, the securing mechanism disclosed in AN2 uses sprung-hooks provided on the plugs themselves which snap into slots (40) provided in the central unit housing walls (24) (see col. 3, lines 64 to 66 and col. 6, lines 7 to 11 and figure 4).

4.10 The Board does not accept the appellant's argument that the fact that in the mechanism according to AN2 the hooks are provided on the plug is of little importance or that the positions of the hooks and locking element on such catch-mechanisms are easily interchangeable since if the catch-mechanism requires the hooks to be positioned on the plug, this means that conventional plugs cannot be used. The appellant's comment that it is an obvious measure to ensure that plugs used in production testing are easily connected and disconnected has been made with the benefit of hindsight and there is nothing in the prior art which gives any clue to the idea of providing the dual function of the claimed arrangement.

4.11 Thus, the subject-matter of claim 1 involves an inventive step and meets the requirements of Article 56 EPC.

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 in amended form on the basis of the following documents:

   Claims 1 to 4 filed as the main request during the oral proceedings of 11 October 2013;
   Description and Figures as granted.

Registrar: Chairman:

C. Spira U. Krause