Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 23 June 2025

Case Number: T 2416/22 - 3.4.01

Application Number: 17197662.4

Publication Number: 3340738

IPC: H05B6/12

Language of the proceedings: EN

Title of invention:
INDUCTION BURNER ELEMENT HAVING A PLURALITY OF SINGLE PIECE FRAMES

Patent Proprietor:
Whirlpool Corporation

Opponent:
Electrolux Rothenburg GmbH Factory and Development

Headword:
Induction burner / Whirlpool

Relevant legal provisions:
EPC Art. 52(1), 56, 123(2)
RPBA 2020 Art. 12(4)

This datasheet is not part of the Decisior
It can be changed at any time and without notic

Keyword:
Main Request, Auxiliary Request 1 - added subject-mater (yes)
Auxiliary Request 2 - admission (yes)
Auxiliary Request 2 - inventive step (yes)

This datasheet is not part of the Decisior
It can be changed at any time and without notic

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0

Case Number: T 2416/22 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 23 June 2025

Appellant: (Opponent)	Electrolux Rothenburg GmbH Factory and Development Fürther Strasse 246 90429 Nürnberg (DE)
Representative:	Schröer, Gernot H. Meissner Bolte Patentanwälte Rechtsanwälte Partnerschaft mbB Bankgasse 3 90402 Nürnberg (DE)
Respondent: (Patent Proprietor)	Whirlpool Corporation 2000 North M-63 MD 3601 Benton Harbor, MI 49022 (US)
Representative:	PGA S.p.A., Milano, Succursale di Lugano Via Castagnola, 21c 6900 Lugano (CH)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 24 August 2022 concerning maintenance of the European Patent No. 3340738 in amended form.**

Composition of the Board:

Chair	P. Scriven
Members:	T. Petelski
	C. Almberg

Summary of Facts and Submissions

I. In its interlocutory decision, the Opposition Division found that the patent could not be maintained as granted, due to a lack of novelty. However, the patent could be maintained in amended form, according to Auxiliary Request 15.

II. An appeal was filed by the opponent, who requested that the decision be set aside and the patent revoked; and, otherwise, that oral proceedings be held. They also submitted new documents D5, D6, and D7/D7'.

III. In their reply to the appeal, the proprietor requested that it be dismissed (Main Request), or that the patent be maintained on the basis of one of 18 auxiliary requests. Of these, Auxiliary Requests 3, 7, 9, 13, 15, and 17 had been filed during opposition proceedings (then numbered as Auxiliary Requests 18, 19, 20, 26, 27, and 28, respectively), whereas the remainder were new on appeal. The proprietor argued that documents D5, D6, and D7/D7' should not be considered; and they requested oral proceedings, if their main request could not be allowed.

IV. With a summons to oral proceedings, the Board issued its preliminary opinion, according to which the proprietor's Main Request and Auxiliary Request 1 were not allowable, because the claims contained added subject-matter (Article 123(2) EPC). However, the Board

was positive on the consideration and allowability of Auxiliary Request 2.

V. The opponent declared that they would not participate in the oral proceedings.

VI. The proprietor stated that

> *... oral proceedings are no longer requested should the Board of Appeal be intended to grant the Patentee/Respondent's Auxiliary Request 1 or be intended to grant the Patentee/Respondent's Auxiliary Request 2.*

VII. Subsequently, the oral proceedings were cancelled.

VIII. The substantive requests by the parties are as follows:

- The opponent requests that the decision be set aside and that the patent be revoked.

- The proprietor requests that the appeal be dismissed, or that the patent be maintained with the claims according to one of Auxiliary Requests 1 to 18.

IX. Claims 1, 8, and 9 of the Main Request read as follows (reference signs omitted):

1. An induction burner element for a cooking appliance, the induction burner element comprising:

a plurality of injection molded frames positioned in a spaced and concentric relationship, each injection molded frame having at least one lower cavity;

a ferrous member disposed within the at least one lower cavity for each injection molded frame; and

a plurality of wound coils for each injection molded frame, wherein each wound coil corresponds to a respective injection molded frame,

characterized in that

each injection molded frame has an upper cavity,

said plurality of wound coils are disposed within the upper cavity of each injection molded frame,

the plurality of injection molded frames are coupled together by a plurality of bridge members that extend between at least two adjacent injection molded frames and

the bridge members are separate plastic members that are attached through a male-female connector with each of the induction frames.

8. The induction burner element of any one or more of claims 1-7, wherein the bridge members are injection molded members.

9. The induction burner element of any one or more of claims 1-8, wherein the bridge members are at least partially defined by the ferrous member.

X. Claim 1 of Auxiliary Request 1 combines claims 1 and 8 of the Main Request. Accordingly, claim 8 has been deleted, with subsequent renumbering and adaption of the references.

XI. Claim 1 of Auxiliary Request 2 also combines claims 1 and 8 of the Main Request, as in Auxiliary Request 1. However, not only claim 8, but also claim 9 of the Main Request, has been deleted.

XII. The decision makes reference to the following documents:

D2: CN 205546021 U
D2': Translation of D2 into English
D4: EP 2770801 A1
D5: US 2015/0373785 A1
D6: DE 20 2009 000 991 U1
D7: CN 104812114 A
D7': Translation of D7 into English

Reasons for the Decision

Main Request - added subject-matter

1. The Opposition Division held that the subject-matter of the claims according to the present Main Request (then Auxiliary Request 15) did not extend beyond the content of the application as filed.

2. Claim 1 defines that

> *... the bridge members (100) are separate plastic members that are attached through a male-female connector (140) with each of the induction frames (16).*

3. Claim 9, which is dependent on claim 1, defines that

> *... the bridge members (100) are at least partially defined by the ferrous member (22).*

4. The opponent expanded on the objections they had raised during the opposition proceedings (see point 3.1 of the minutes of the oral proceedings before the Opposition Division and point XV of their submission dated 29 April 2022). They argued that the definition of the bridge members in claim 1 amounted to an unallowable intermediate generalisation from its context as disclosed in paragraph [0034] of the application as filed.

5. Further, according to the opponent, there was no basis, in the application as filed, for bridge members of a material that was not purely a plastic material, but which also comprised ferrous material, as in claim 9.

6. The first of the opponent's two arguments is not persuasive. Paragraph [0034] of the application as filed describes, with reference to Figure 11, an "aspect of the bridge element" (paragraph [0017] as filed) in which separate plastic bridge members are attached to the frames by "male-female connectors", using the same words as in claim 1. It is apparent, from the context, that this aspect is an option for all embodiments of the invention, except those using a unitary member acting as bridge members and frames, as shown in Figure 10. There is no feature that is inseparable from this definition but not defined in claim 1, nor has the opponent identified any such feature.

7. The second of the opponent's arguments, however, is persuasive. The application as filed defines the bridge members by the ferrous members only in the penultimate sentence of paragraph [0027] of the description as filed. The preceding sentences of this paragraph describe the embodiment illustrated in Figure 10, in which a single unitary member 116 acts, at the same time, as injection moulded frames and as bridge members. In this embodiment,

> *... the injection molding material forms around the unitary member 116 to define the frames 16 and bridge members 100 and also, simultaneously, can set the positions of the various ferrous members 22 ....*

8. A definition of the bridge members by the ferrous members is, however, not mentioned for those embodiments in Figures 1 - 9, in which the bridge members are separate plastic members that are attached

through a "male-female connector" with each induction frame and the ferrous member therein ([0034] as filed).

9. The skilled person would also not understand the passages in paragraphs [0027] and [0034] to be compatible with one another. The ferrous members can only define the bridge members, if both are a part of the same piece, like, for example, the unitary member 116 in paragraph [0027] of the application as filed. By implication, this means that such a definition is not possible if the bridge members are separate plastic members that are attached through a "male-female connector" with each induction frame and the ferrous member therein ([0034] as filed). Whenever the bridge members are separate from the frames, they are also independent of the ferrous members that are disposed within the lower cavities of the frames.

10. Hence, the combined subject-matter of claims 1 and 9 extends beyond the content of the application as filed (Article 123(2) EPC), and the Main Request is not allowable.

Main Request - inventive step starting from D2

11. References to D2 are made via its translation, D2'.

12. D2 discloses a coil disk for use in an induction cooker ([0002] and [0054] - [0060]). The wires 4 of the different concentric portions of the coil (see Figures 5 and 6) are wound onto different portions of a coil disk support 2, the support being a single, injection moulded piece ([0065]).

13. Although part of a single piece, the different portions of the coil disc support 2 in D2 are "a plurality of injection molded frames positioned in a spaced and concentric relationship" in the sense of the contested patent. This is because the description of the contested patent speaks of injection moulded frames, such as the inner circular frame, and the medial and outer ring frames, regardless of whether they are physically separate entities or form one unitary component ([0015] - [0017] of the patent). The plurality of injection moulded frames defined in claim 1 cannot be interpreted more narrowly, and does not, therefore, imply that the plurality of injection moulded frames are physically separate components.

14. However, D2 does not disclose any kind of bridge members that couple together the plurality of injection moulded frames. This also applies to those parts of the support in D2 that lie between the sections containing the coil segments.

15. Hence, the Opposition Division was right in finding that the subject-matter of claim 1 differed from D2 in its last two features that define the bridge members.

16. The opponent did not contest these differences. However, they did contest that they involved an inventive step.

17. According to the opponent, the objective technical problem, starting from D2, was to provide a modular induction burner element. In order to solve this problem, the skilled person would, in a first step, have split the single-piece coil carrier of D2 into several concentric coil carriers with one coil each. It was known that a multi-piece (modular) design was an

alternative to a single-piece design, and had the advantage of requiring less complex forms and of offering a more flexible design; however, at the cost of higher assembly costs. The choice of the modular design option would not only have been obvious from the skilled person's general technical knowledge but also under the consideration of D4.

18. Still according to the opponent, selecting means to connect the multiple coil carriers to each other would have been a necessary consequence of choosing the modular design option. One obvious possibility, which was already present in D2, would have been the magnetic strips 1, which even had "male-female connectors" in the form of pins 11. Another possibility would have been the patches of hardened silicon glue, used to glue the strips to the support (D2, paragraph [0078]). Alternatively, starting from D2, the modular design of the coil carriers, and their connection by bridge members with (form-locking) "male-female connectors", would also have been obvious from D4, in which such a solution was disclosed or at least hinted at in paragraphs [0018], [0020], and [0024]; possibly under further consideration of D5, D6, or D7.

19. These arguments are not persuasive. First of all, the technical problem related to the differences lies in facilitating the manufacture of heating elements of different sizes. The modular design should not be part of the problem, because that would anticipate a part of the solution.

20. D2 aims at reducing the risk of the magnetic strips - or parts of them - breaking or falling off (D2, paragraph [0004]). The solution presented by D2 is based on the particularly shaped single coil disk

support 2 (see all figures), which provides mounting slots 21 near the inner and outer edges of the disk, to receive the respective matching pins 11 of the magnetic strips 1. The magnetic strips 1 are arranged (e.g. glued) radially within their mounting grooves 22, and some of them span (almost) the entire radius of the coil disc support, including all three sections of the coil discernible in Figures 5, 6, 9, and 11.

21. Faced with the problem of facilitating the manufacture of differently sized heating elements, the skilled person might have considered independent regulation of the three different, concentrically arranged parts of the coil in D2, or the manufacture of differently sized coil disk supports that have different numbers of coil sections, e.g. only one or two such sections instead of three. However, starting from D2, the skilled person would only have considered coil disc supports that were integrally formed, an aspect that is essential to achieving the goal of the invention in D2, namely the reduced risk of breaking or losing magnetic discs, or parts of them. A modular construction is not only not hinted at in D2, but would have been detrimental to its inventive idea, since it would have increased the risk of breaking or losing the magnetic strips, or would have considerably increased the difficulty of preventing that.

22. Further, the skilled person would not have understood the hardened layer of glue, which is used to fix the ferrous members to the frame in D2, as separate plastic bridge members. Nor would they have used the ferrous members themselves as bridge members in D2, because in this function they would clearly be more prone to breakage, which D2 is expressly intended to prevent.

23. This means that the Opposition Division was correct in finding that the skilled person would have rejected a modular solution, both in view of the common technical knowledge and in view of suggestions from other documents.

24. Even if, despite the above, the skilled person had considered a combination of D2 and D4, they would still not have arrived at the subject-matter of claim 1.

25. D4 teaches a connection between different parts (or frames) 30, 40 of a coil disc support 20 through interconnecting structured elements 35, 35' and 45, 45'. These elements are integral parts of the frames 30, 40, and do not form separate plastic bridge members that would have to be connected to the frames. This is so regardless of whether the ferrous members 24 are made from one or two pieces.

26. Hence, the subject-matter of claim 1 involves an inventive step in view of D2, even if combined with D4 (Articles 52(1) and 56 EPC).

27. Since the induction burner element defined by claim 1 is not obvious, the method of forming it, defined in claim 13, is likewise not obvious.

Main Request - relevance and consideration of D5, D6, D7

28. D5, D6, and D7 were first filed on appeal, by the opponent. Their consideration is subject to the Board's discretion under Article 12(4) RPBA.

29. Both D5 and D6 disclose the use of bridge or bracket elements to attach the heating units of an induction

hob to its surrounding frame. The heating units are connected to the bridge or bracket elements by clamps (D5), or bolts or screws (D6). D7 is about the side-by-side connection of square shaped coil carriers.

30. None of D5, D6, and D7 shows an attachment of concentrically arranged portions of a single heating element to one another. Hence, D5, D6, and D7 do not add any relevant teaching to the common general knowledge on the possibilities of connecting two pieces to each other. They are, therefore, not relevant for the assessment of inventive step in combination with D2 and are, therefore, not considered.

Auxiliary request 1 - added subject-matter

31. Claim 8 is identical to claim 9 of the Main Request. Hence, the same objection of added subject-matter that applies to the Main Request also applies to Auxiliary Request 1 (Article 123(2) EPC).

32. This means that, regardless of the question of admission, Auxiliary Request 1 is not allowable for the same reason as the Main Request.

Auxiliary Request 2 - consideration and allowability

33. Auxiliary Request 2 is new on appeal. Its consideration is subject to the Board's discretion under Article 12(4) RPBA.

34. Claim 1 of Auxiliary Request 2 combines claims 1 and 8 of the Main Request. Claim 9 of the Main Request is deleted, and the wording of claims 2 to 11 is identical

with that of claims 2 to 7 and 10 to 13 of the Main Request, except for a renumbering and an adaptation of the references.

35. The deletion of claim 9 of the Main Request solves the outstanding issue of added subject-matter (Article 123(2) EPC) in the Main Request, without introducing other problems, and without influencing the positive findings on inventive step.

36. The opponent did not comment on Auxiliary Request 2. Notably, they did not submit a substantive response to the Board's preliminary opinion, which addressed the issues at hand in detail. Instead, they explicitly withdrew their request for oral proceedings.

37. Therefore, the patent can be maintained on the basis of Auxiliary Request 2.

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 on the basis of Auxiliary Request 2 as submitted with the reply to the appeal, a the description to be adapted to it, and the drawings of the patent.

The Registrar: The Chair:

D. Meyfarth P. Scriven

Decision electronically authenticated