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**Datasheet for the decision  
of 29 January 2008**

**Case Number:** T 0059/06 - 3.2.04

**Application Number:** 97111873.2

**Publication Number:** 0807400

**IPC:** A47L 15/42

**Language of the proceedings:** EN

**Title of invention:**  
Dishwasher

**Patentee:**  
Fisher & Paykel Appliances Limited

**Opponent:**  
BSH Bosch und Siemens Hausgeräte GmbH

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 100(c), 52(1), 56

**Relevant legal provisions (EPC 1973):**  
-

**Keyword:**  
"Inventive step (no) all requests"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 0059/06 - 3.2.04

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.04  
of 29 January 2008

**Appellant:**  
(Opponent)

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**Respondent:**  
(Patent Proprietor)

Fisher & Paykel Appliances Limited  
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**Representative:**

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted 17 November 2005  
rejecting the opposition filed against European  
patent No. 0807400 pursuant to Article 102(2)  
EPC.**

**Composition of the Board:**

**Chairman:** M. Ceyte  
**Members:** A. de Vries  
T. Bokor

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal, received 12 January 2006, against the decision of the Opposition Division posted 17 November 2005 to reject the opposition, and simultaneously paid the appeal fee. The statement setting out the grounds was received 17 March 2006.

II. Opposition was filed against the patent as a whole and based on Article 100(a) together with Articles 52(1), 54 and 56 EPC for lack of novelty and inventive step.

The Opposition Division held that the grounds for opposition under Article 100 EPC did not prejudice the maintenance of the patent as granted having regard to the following documents in particular:

D1: DE 85 03 042 U1

D2: US-A-2 960 375

III. The Appellant (Opponent) requested that the decision under appeal be set aside and the patent be revoked in its entirety. In the statement of the grounds of appeal he cited the following further document among others:

D6: US-A-3 587 939

The Respondent (Proprietor) requested that, as main request, the appeal be dismissed, or, in the alternative, that the patent be maintained on the basis of an auxiliary request filed with letter dated 19 December 2007.

IV. Oral proceedings were duly held before this Board on 29 January 2008.

V. The wording of claim 1 (the sole independent claim) of the requests is as follows :

**Main Request (as granted)**

"A dishwasher comprising:

(a) a cabinet means,

(b) a first wash system slidably mounted within said cabinet means in such a manner that it may be withdrawn horizontally out of said cabinet means for access thereto,

(c) a second wash system slidably mounted within said cabinet means above and in vertical registration with said first wash system and in such a manner that said second wash system may be withdrawn horizontally out of said cabinet means for access thereto, said first and second wash systems each including:

(i) an open top wash chamber adapted to accommodate dishes within which wash liquid is circulated,

(ii) a spray generating means for producing a spray of wash liquid within said chamber,

(iii) means for evacuating wash liquid from said chamber, and

(d) first and second wash chamber lids mounted in said cabinet means, which lids are engaged with a respective first or second wash chamber opening to close off said first and second wash chambers on horizontal retraction of the respective wash chambers into said cabinet means from a position where the respective wash chamber is withdrawn,

- (e) a first water discharge means capable of discharging into the wash chamber of said first wash system,
- (f) a second water discharge means capable of discharging into the wash chamber of said second wash system,
- (g) electrically operated valve means connected in use to a water supply connection and by hoses to each of said first and second water discharge means, said valve means operable to selectively supply water to either or both of said first and second discharge means if the respective wash system is fully retracted into said cabinet means."

**Auxiliary Request**

Claim 1 is as claim 1 in its granted form but for amendment of feature (c) to read:

"...said first and second wash systems each including:

- (i) an open top wash chamber adapted to accommodate dishes within which wash liquid is circulated,
- (ii) a **rotatable spray arm** for producing a spray of wash liquid within said chamber,
- (iii) **a centrifugal pump mounted integrally with said spray arm which discharges wash liquid into the arms of said spray arm,**
- (iv) means for evacuating wash liquid from said chamber, and"

(Emphasis has been added by the Board to indicate what has been amended or added).

VI. The Appellant argued as follows:

D2 is considered to represent the closest prior art as it concerns the same type of dish washing system as claimed. The sole difference of the claim 1 dishwasher vis-à-vis this prior art resides in the fact that two such systems are stacked one above the other. This addresses the problem of how to increase flexibility of use. This problem is known and solved in D1 in the same manner. Claim 1 applies this known solution of a known problem to the D2 system in straightforward manner.

The features added to claim 1 according to the auxiliary request are directly derivable from D6 which shows an integral pump and spray unit of reduced height. Applying such a unit to stacked D2 units results in a mere aggregation of components and configurations which are well known to the skilled person.

VII. The Respondent argued as follows:

D1 is considered to represent the closest prior art as it concerns the same purpose and effect. However its solution is distinct from that claimed. Whereas the invention concerns two separately operable wash systems, D1 shows a single wash system with single pump system in which the wash chamber is divided up into separately operable chambers. The claimed invention and D1 are alternative solutions to the same problem of flexibility. The skilled person has no reason to depart from its teaching to address a problem it has already solved. It is thus unclear what would motivate him to look towards an entirely distinct field of open-top tub dish washers. Even if the skilled person might consider

a wholesale replacement of the system of D1 by a different type system such as that of D2, this would at any rate involve various non-obvious modifications to overcome structural incompatibilities between the two different types of wash systems.

Starting from D2 as closest prior art stacking two such systems to improve flexibility also leads to practical problems, not least that of the reduced loading volume of each unit. Even if the skilled person did look towards further D6 this would not achieve a significant height reduction or space savings.

### **Reasons for the Decision**

1. The appeal complies with Articles 106 to 108 and Rule 99 EPC and is therefore admissible.
  
2. *Document D6*

D6 was submitted with the statement setting out the grounds of appeal, and thus well after the expiry of the nine-month period under Article 99(1) EPC. However its submission is seen to have been prompted by the finding in the decision regarding height constraints imposing practical impediments on an obvious combination of D1 and D2. More particularly however, this document is regarded as relevant to the issue of inventive step with regard to the auxiliary request submitted by the Respondent in response to the summons to oral proceedings. The Board therefore decides to admit the document into the procedure.

3. *Background*

The invention concerns a cabinet mounted dishwasher with two wash systems arranged one on top of the other, each of the open top tub, horizontally sliding type. Each such drawer type unit has its own spray generating means, drain and water supply and cabinet-side mounted lid for sealing the tub when slid back into the cabinet. An electric valve in the connection of (mains) water supply to the unit supplies is operable to selectively supply water to either or both of the wash systems if slid back into the cabinet. This arrangement (see page 1 of the description as filed) allows for more efficient use and flexibility in loading and unloading the dishwasher.

4. *Closest prior art*

4.1 The problem-solution approach used by the EPO departs from a notional "closest prior art", i.e. an instance of prior art which for the purposes of assessing inventive step is most likely to lead to the claimed invention. A judicious choice of this document obviates assessing inventive step from a plurality of potential starting points, and thus reduces investigative effort considerably. The Boards have developed various criteria or indicia for identifying this best starting point, see e.g. the Case Law of the Boards of Appeal of the EPO, 5th edition, 2006, section I.D.3.1). However, in demonstrating lack of inventive step, it is ultimately of little importance which of a plurality of instances of prior art represents this notional "closest prior art", as long as it can be shown that a



route exists leading in obvious manner from one of these instances to the claimed invention.

4.2 In the present case, the Board considers the embodiment detailed in D2 as such a starting point, as a convincing chain of reasoning can be shown to exist, by which this instance of prior art obviously leads to the claimed invention. D1 may address the same problem as the invention, but the specific dishwasher described therein is of different type - a front loading dishwasher - so that the path leading from it to the claimed invention is more tortuous, requiring a larger number of modifications to arrive at the claimed invention, as also convincingly argued by the Respondent.

4.3 D2 incontestably relates to a dishwasher of the same type - open top tub, laterally movable (column 1, opening paragraph) - as the present invention. It discloses, see figure 1, and column 2, lines 2 to 69, a wash system located in a cabinet 1 and including an open top wash chamber or tub 5 with spray generating means in the form of rotary impeller 16 at the bottom, and a pump 18,19 connected to a drain line acting to evacuate liquid from the tub. The entire assembly is mounted (via slide 13 and rollers 11,12) to slide horizontally from a closed washing position to a forwardly extended, open position with a lid or cover 24 provided to seal the tub when withdrawn into its closed position (column 1, lines 49 to 51). The dishwasher further includes an electrically operable valve in the form of a solenoid valve 21.

5. *Inventive Step*

5.1 The parties agree that the dishwasher of claim 1 as granted (*main request*) differs from the dishwasher of D2 in that:

- a *second* independently operable system is provided within the cabinet *above and in vertical registration with* the first, and
- the electrical valve means is adapted to *selectively* supply water to *either or both systems*, and
- the valve means *selectively* supplies water *if the respective system is fully retracted into the cabinet*.

5.2 The first two differences - stacking two dishwashing systems and operating the valve to supply water to either or both - allow capacity to be adjusted to load, with the additional benefit that (for smaller loads) once a system has completed a wash it need not be unloaded if the other is still empty and available for a wash. The technical problem addressed by these features can be formulated accordingly as *how to respond more flexibly to demand while reducing loading/unloading effort*; see also description page 1, lines 13 to 21, of the as filed application.

The remaining difference of the valve selectively supplying water if the system or systems are fully withdrawn into the cabinet prevents possible leakage due to continued water supply when the system is in its opened condition. The technical problem is formulated accordingly as *how to prevent leakage from an open tub*.

It is not apparent to the Board that these two sets of differences and their underlying problems are in any way related, or that there might exist some synergetic interaction between the respective sets of differences. Nor has evidence to that effect been put forward. Following well-established jurisprudence the Board therefore considers inventive step of the two sets of features independently of one another.

- 5.3 As regards the first set of differences, both the problem addressed thereby, and its solution are already known in the present field of dishwashers. D1, in its opening paragraph on page 1, identifies its objective as providing double capacity during peak demand ("bei Stossbedarf ... doppelte Leistung") while also saving effort in that cleaned articles can be used directly from the unit without intermediate storage ("insofern Arbeit spart, ... ohne Umweg ... direkt wieder zum Einsatz kommt"). These objectives correspond to the linked concerns of flexible response and reducing loading/unloading effort as indicated above.

The basic solution offered by D1 is set out in its only claim: instead of a larger chamber two smaller chambers are placed one above the other or side by side and are operable to wash loads independently of one another or together. As formulated in the final paragraph of page 1 the central idea is thus to split a normal size washing chamber into two smaller compartments that are separately operable ("normalgrosser Spülraum in zwei getrennte Kammern aufgeteilt, die einzeln betrieben werden können"). Though this idea is exemplified in a dishwasher with stacked *frontloading* washing chambers sharing a common pump (see figure 1, pages 2 and 3) it

is not intended to be bound to that specific example but is much more generally applicable. This is apparent from the general formulation of claim 1 and of the final statement on page 1 summarizing the inventive concept and its effects, and may also be inferred from various modifications suggested in the final two paragraphs of page 3.

5.3.1 As explained in the final paragraph of page 1 of D1, see also its claim, *separately operable* means that each of the smaller chambers is operable to carry out a wash cycle, and can be loaded and unloaded independently of the other. Each chamber must then necessarily be provided with the features that ensure that each can separately carry out its loading and washing functions. Each chamber together with those features then effectively constitutes what the Board considers to be a self contained, separate wash unit or system. That in the sole (front loading) embodiment the two units share components does not contradict this "duplication" between the units; rather it must be seen as a further refinement of the two-chamber principle resulting from the well-known concern in the field of kitchen and other appliances to make optimal use of available (internal) space and reduce the number of components. This common concern is e.g. implicit in the flat arrangement ("flachbauend") of shared components indicated on page 2, lines 2 to 5 of D1.

5.3.2 The skilled person - here an engineer in the field of dish washing machines - confronted with the problem identified above in a dishwasher such as that of D2, will, as a matter of obviousness, turn to D1 which offers a general solution to that same problem in the

present field. In accordance with D1's "two chamber principle", and following the first of the two options offered in claim 1 of D1, he will split the main chamber into two vertically arranged, separately operable, smaller chambers. To ensure that each is separately operable he will, as a matter of obviousness, provide each with the corresponding features of a D2 wash unit: water discharge means connected to a water supply via a solenoid valve, drain and spraying means including a pump with impeller, rollers and slide, and a lid.

In the resultant dishwasher water supply to either (or both) of the systems will be controlled by operation of the respective, separately operable solenoid valves. The two valves together form the electrically operated valve means of claim 1.

5.4 As regards the remaining difference, the Board considers it a manifestly known, routine measure in the field of dishwashers to stop water supply by closing off the water supply valve when the unit is open and most susceptible to leakage. It therefore holds that adoption of this measure in a dish washing system does not involve an inventive step.

5.5 In conclusion, the obvious application of the general two-chamber principle of D1 to a dishwasher as in D2 in order to improve flexibility in use and loading efficiency combined with the further straightforward adoption of the unrelated routine measure of stopping water supply from the valve when a dishwashing unit is open to avoid leakage results in a dishwasher having the features of claim 1 as granted. The subject-matter

of that claim therefore lacks inventive step and the patent as granted fails to meet the requirement of Article 52(1) in combination with Article 56 EPC.

- 5.6 Turning to claim 1 of the *auxiliary request* - which adds to claim 1 as granted the further features of a centrifugal pump integrally mounted with a rotary arm - the Board holds that the space considerations noted above in section 5.3.1 will prompt the skilled person to scale down pump and sump to better accommodate two smaller units in the space of a normal size unit without major loss of capacity. Additionally, he readily recognizes that half-size tubs do not require a full size sump or full capacity pump, and he is thus further motivated to reduce them in size. In the Board's view, the large size of pump and sump do therefore not form a practical impediment to applying D1's teaching to D2, but rather constitute an incentive for reducing pump and sump in size.

Further D6, which relates to pump motors in dishwashers (see abstract), will strike him as particularly relevant in this respect, as it provides him with one way of reducing total pump/sump height by placing the pump within the sump (where D2 has the pump located below the sump). In this low-profile pump/sump arrangement pump motor 18 and rotary spray arm 19 form an integral unit, with motor impeller 32 and flow conduits 38 designed to direct water flow into the spray arm, see figures 1 and 2 in conjunction with column 2, lines 45 to 68. As acknowledged by the Respondent the centrifugal pump is integrally mounted with the rotary spray arm as required by claim 1 of the *auxiliary request*. The further straightforward adoption

of a pump/sump arrangement as in D6 in the obvious dishwasher of claim 1 as granted, with the aim of accommodating two dishwashing units within the space of a normal unit of a D2 type following the D1 principle without major loss of capacity results in a dishwasher falling within the terms of claim 1 of the auxiliary request. The dishwasher of that claim thus lacks inventive step as required by Article 52(1) in combination with Article 56 EPC.

6. In conclusion, the Board finds that the ground mentioned under Article 100(c) EPC prejudices the maintenance of the patent as granted and in accordance to the auxiliary request.

## **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

M. Ceyte