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D E C I S I O N
of 10 March 2005

Case Number: T 0224/04 - 3.2.6

Application Number: 98914871.3

Publication Number: 0964951

IPC: D06F 39/02

Language of the proceedings: EN

Title of invention:
Process and dispensing device for washing laundry in a washing machine

Patentee:
UNILEVER PLC, et al

Opponent:
Colgate-Palmolive Company

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - new main request (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0224/04 - 3.2.6

D E C I S I O N
of the Technical Board of Appeal 3.2.6
of 10 March 2005

Appellant: (Opponent)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 26 November 2003 concerning maintenance of European patent No. 0964951 in amended form.**

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. L. De Crignis
R. T. Menapace

Summary of Facts and Submissions

I. European Patent No. 0 964 951, granted on application No. 98914871.3 was maintained in amended form by the decision of the opposition division by decision posted on 26 November 2003.
The opposition division held that the subject-matter of claims 1 and 19 in accordance with the patent proprietor's main request was novel (Article 54 EPC) and involved an inventive step (Article 56 EPC). The state of the art represented by the documents:

D1: EP-A- 0 576 234
D2: EP-A- 0 343 069
D3: EP-A- 0 846 798
D4: EP-A- 0 473 532
D5: EP-A- 0 479 711

was taken into account by the opposition division.

II. On 6 February 2004 the appellant (opponent) filed a notice of appeal against this decision and paid the appeal fee. The statement setting out the grounds of appeal was received on 6 April 2004.

III. The respondent (patent proprietor) requested maintenance of the patent in amended form on the basis of the claims which had been held allowable in the decision under appeal.

IV. In a communication dated 6 December 2004 and accompanying the summons to oral proceedings, the Board indicated that further discussion appeared necessary to determine the structural differences of the net bag and

in the claimed washing process when compared to the bag known from D1.

V. Oral proceedings were held on 10 March 2005.
The appellant requested that the decision under appeal be set aside and that the patent be revoked. The respondent requested that the patent be maintained on the basis of the claims 1 to 17 and the amended description, both as submitted during the oral proceedings, and with the figures as granted.

Claim 1, the only independent claim of the respondent's request reads as follows:

"A process for washing laundry in a washing machine by employing a receptacle for dispensing one or more detergent tablets (10), the receptacle (1) comprising a net structure having a plurality of apertures (5) for permitting the passage of an aqueous solution there through, the process comprising the steps of:
- placing the dispensing receptacle (1) having at least one detergent tablet (10) contained therein in a washing machine together with the laundry to be washed; and
- carrying out a washing operation,
the process being characterised in that the net structure is a loosely fitting net bag (2), wherein apertures (5) of the net have an average mesh size of between at least 3 mm and less than 10 mm."

This claim corresponds to claim 1 as granted (and as originally filed), with the exception that the range of the average mesh size of the apertures of the net has been restricted.

VI. In support of his request the appellant argued essentially as follows:

The process as claimed according to claim 1 did not involve an inventive step. D2 or D5 could be considered as representing the closest prior art. Both documents referred to a dispensing device for washing laundry and undisputedly disclosed all features of the preamble of claim 1 of the patent in suit and additionally that the dispensing device consisted of a loosely fitting net bag. Although novelty was not at issue since D5 did not relate *expressis verbis* to a specific range for the mesh size of the apertures of the net, and D2 disclosed a range of the mesh size of 0.5 to 0.8 mm, the claimed washing process lacked an inventive step.

The objective problem underlying the claimed washing process could only be seen in optimizing the mesh size range of the net bag. From paragraph 0036 of the patent in suit the skilled person would clearly understand that the solution consisted in finding a mesh size which allowed liquid to pass through and improved the dissolution rate of the tablet which would lead to a low level of residues remaining in the net bag.

Starting from D2 as closest prior art, the additional information was available therefrom that the mesh size should be chosen in accordance with the form of detergent used. The skilled person learnt from D2 that a mesh size of up to 0.8 mm was too small in order to let small particles pass through and resulted in an unacceptably long dissolving time for tablets (confirmed in column 1, lines 36 to 43 of D5) and thus

would arrive at a range of mesh size larger than the one specifically mentioned.

In the alternative, starting from D5 as closest prior art, it was suggested therein to choose a mesh size which allowed small particles to pass through (column 4, lines 13 to 16 and lines 53 to 55 as well as column 3, lines 7 to 12 and 23 to 27). Hence, the optimal range of the mesh size of the apertures could be found by the skilled person by testing lower and upper limits in a reasonable range which had to start sufficiently low in order to allow a dissolution of the tablet and retaining it within the device, but at the same time sufficiently high in order to improve the water flow through the device in order to avoid a high percentage of residue.

D1 which disclosed a mesh size in the range of 1 to 20 mm would lead to the use of larger mesh sizes whereby the skilled person was not at all hindered in applying this teaching also to inelastic nets. D1 pointed to the fact that the holes of the mesh should be of a size sufficient to allow the flow of water to the tablet but not so big as not to provide adequate support for the tablet (page 3, lines 38 and 39 of D1). This general disclosure enabled the skilled person to perform tests in order to find an optimal range for the mesh size. Moreover, since no explanation was given for the alleged decrease of dye damage (see table 2 of the patent in suit) this effect should be ignored as not having been substantiated.

Therefore, starting from either D2 or D5, for the above reasons the skilled person would arrive in an obvious manner at the claimed washing process.

VII. The respondent (patent proprietor) essentially argued as follows:

Even when acknowledging that D2 disclosed all features of claim 1 except for the mesh size, the gist of the invention disclosed in D2 was the application of a powder or tablet in a bag and its **complete** dissolution in the bag.

D5 did nowhere refer to a specific mesh size or range of mesh sizes and the spacer means being the crucial element of the teaching of D5 the skilled person would not combine it with any of the other cited documents. Again, the reference to small particles which would pass through the net only concerned avoidance of residues and did not suggest larger mesh size openings.

D1 referred to a quite different inventive concept since the elastic net and its mesh size could not be related to any of the nets disclosed in the other cited documents. Hence, the skilled person would not combine the teaching of D1 with either that of D2 or D5.

Furthermore, the finding that a decrease in dye damage was related to an increase in mesh size had not been predicted anywhere. The appellant disputed this effect but had not provided any evidence in support.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

Claim 1 has been limited to apertures of the net having an average mesh size of between "at least 3 mm and less than 10 mm". Basis for this amendment can be found in claim 2 as originally filed for the feature of "at least 3 mm", and on page 4, line 31 of the application as originally filed (and claims 1 and 20) for the feature of "less than 10 mm".

The requirements of Article 123(2) and (3) EPC are thus met.

3. *Novelty*

Lack of novelty has not been objected to by the respondent. The Board has verified that none of the cited documents discloses a process for washing laundry including a dispensing device in the form or a net bag having an average mesh size of "between at least 3 mm and less than 10 mm". Hence, claim 1 meets the requirements of Article 54(1) EPC.

4. *Inventive step*

4.1 The closest prior art in relation to the process according to claim 1 is represented by D2. This document discloses a process for washing laundry in a washing machine by employing a receptacle in the form of a loosely fitting net bag. D2 refers, with respect

to the detergent structures used, to powders, granules, paillettes, tablets and other similar structures which can be dissolved during washing conditions (column 5, lines 23 to 28), but refers predominantly to powders. The receptacle can be made of a woven or nonwoven material of natural or synthetic fibers (column 6, lines 42 to 50, claim 6). The process for washing laundry comprising the steps of placing the dispensing device including the detergent therein in a washing machine together with the laundry to be washed and carrying out a washing operation follows from claim 1 of D2. The figures of D2 disclose the receptacle as being a loosely fitting net bag (figures 1, 2, 5 and 6). The apertures of the receptacle may be in the range of 0.5 to 0.8 mm (column 6, lines 54/55), but it is further set out in column 6, lines 57 to 59 that the dimensions of the apertures can vary within large limits according to the nature and granulometry of the material to be dispensed. Accordingly, the suggestion can be deduced that for larger tablets also larger mesh sizes should be used.

However, D2 is concerned with full dissolution of the particulate detergents in the bag, thereby avoiding non-dissolved components such as detergents coming into contact with the laundry (column 8, lines 30 to 32). Therefore D2 generally concerns a bag having meshes small enough to avoid non-dissolved components escaping from the bag, apparently with a view to avoiding dye damage, but large enough to avoid too many residues being left in the bag.

4.2 In accordance with the patent in suit (see paragraph 0039), when using tablets it is observed that there is

a decreasing dye damage upon increase of the bag mesh size. Starting from the process for washing laundry known from D2, the objective problem underlying the subject-matter of claim 1 of the patent in suit is to further minimize the risk of dye damage.

4.3 According to the patent in suit this problem is solved by the washing process according to claim 1. The test results disclosed in the patent in suit demonstrate that when using mesh sizes of 3 mm and 5 mm dye damage is reduced not only when compared to a free tablet or free powders, but also when using a mesh size of 1 mm (see table 3). Of course, due to the larger mesh size the amount of residues is also reduced in comparison to a net having 1 mm mesh size.

4.4 The appellant disputed the test results disclosed in the patent in suit without, however, providing any evidence in support of its allegations.
Considering the disclosure of the patent in suit in more detail, it becomes clear, in particular from paragraphs (0036) to (0039), that during washing there are two causes leading to dye damage, namely escape of non-dissolved detergent and the level of concentration of the dissolved detergent escaping through the meshes of the bag. This means that, as is also referred to in paragraph (0039), there is an optimum for the mesh size where the escape of non-dissolved detergent, which is anyhow low when using tablets, and the concentration of the dissolved detergent leaving the bag reach the minimum as to their combined effect leading to a possible dye damage. The lowering of the detergent concentration in the bag by an increased water flow underlying the effects relied upon by the patentee is

clearly shown by the results of table 3 and supported by the explanations derivable from the patent in suit. Consequently the appellant's contention that the test results should be ignored, cannot be followed.

4.5 Although D2 discloses that the mesh size should be adapted in accordance with the form of the detergent used, the overall teaching of D2 focuses on the complete dissolution of the detergent within the device, thereby emphasising the avoidance of any escape of non-dissolved detergent. Therefore, mesh size values in excess of 1 or 2 mm cannot be considered to be suggested by D2, but on the contrary, such larger values would go against the general teaching of D2.

Furthermore, no indication whatsoever is derivable from D2 that sufficient water flow through the meshes, thereby influencing the level of concentration of the dissolved detergent, is a factor to be taken into account when choosing the size of the meshes of the net bag.

4.6 Equally, when starting from D5 as closest prior art, one does not come to a different conclusion. D5, which equally discloses all the features of claim 1 except the range of the mesh size of the net bag, essentially relates to a dispensing device for tablets comprising spacer means exerting an abrasive effect on the detergent tablet, so that the tablet is disintegrated relatively quickly, and dissolved in the bag (column 2, lines 12 to 23). In column 3, lines 7 to 12, it is further stated that the openings of the fluid permeable bag may have a size so as to allow **minor** detergent particles to leave the interior of the receptacle,

thereby further increasing the dispensing rate of the detergent. In view of the general teaching of D5 directed to substantial dissolution of the detergent in the bag, "minor" can only be considered to relate to particles with a size substantially smaller than the value of 3 mm, the bottom value of the claimed range. Again, no suggestion is available to take account of the water flow through the meshes of the net bag as a further factor to be taken into account for avoiding dye damage. Therefore, when considering the problem to be solved by the claimed subject-matter namely to minimize dye damage, D5 rather leads the skilled person to a decrease of the mesh size instead of increasing it in order to avoid dye damage by non-dissolved detergent coming into direct contact with the laundry.

4.7 D1, also relied upon by the appellant, discloses a dispensing device made of an elastic net forming a sleeve for holding a tablet, or tablets, elastically. The mesh size of the elastic sleeve is in the range of 1 to 20 mm and varies throughout the sleeve depending on the position of the tablets. Because of the different concept this prior art is considered less suitable as a starting point for discussing inventiveness of the subject-matter claimed in the patent in suit; not only is the mesh range different, but also the receptacle is clearly not intended to form a loosely fitting net bag around the tablet.
The appellant argued that D1 disclosed different embodiments of which one comprised a net with closure means in which during the washing cycle at least at some instance the tablet would drift loosely in the bag. However, although such possibility is not explicitly excluded, the general teaching of D1 clearly concerns

the support of the tablet during the whole process of dissolution. This is also derivable from the embodiment relied upon by the appellant, where it is stated that the optional feature of closure means is not essential because with some materials the elasticity will naturally cause the openings to close sufficiently to retain the tablet (page 3, lines 49 to 51).

No considerations are derivable from D1 as to the selection of a mesh size range with a view to avoiding dye damage or any particular size in the known range. Therefore, when starting from D2 or D5 as the closest prior art D1 cannot lead the skilled person to the claimed washing process where a net bag with a mesh range starting from the value of 3 mm is used.

5. In none of the cited documents is the claimed mesh size or a combination of the claimed mesh size with the effect on dye damage and remaining residues to be found. Hence, there is also no suggestion in any available document to adapt the mesh size in order to optimize these two issues. Therefore, neither of these documents nor their combination would lead without an inventive step to the subject-matter of claim 1.

For the above reasons, none of the documents relied upon by the opponent renders the claimed subject-matter obvious, whether considered in isolation or in combination, and that, as a consequence, the subject-matter of claim 1 involves an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of the following documents:
   - claims, no. 1 to 17 submitted during oral proceedings
   - description, pages 2 to 10 submitted during oral proceedings
   - figures, no. 1 to 9 as granted

The Registrar: The Chairman:

M. Patin P. Alting van Geusau