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Datasheet for the decision of 19 February 2013

Case Number: T 0549/11 - 3.2.03

Application Number: 02388026.3

Publication Number: 1245743

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Language of the proceedings: EN

Title of invention:
Filter device for water outlet

Applicant:
Johs. Tandrup Metalvarefabrik APS

Headword:
-

Relevant legal provisions:
EPC Art. 123(2), 84, 54, 56

Keyword:
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Decisions cited:
-

Catchword:
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Case Number: T 0549/11 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 19 February 2013

Appellant: (Applicant)
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Representative:
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Decision under appeal:
Decision of the Examining Division of the European Patent Office posted 9 November 2010 refusing European patent application No. 02388026.3 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: U. Krause
Members: G. Ashley
E. Kossonakou

Summary of Facts and Submissions

I. This appeal lies from the decision of the Examining Division to refuse European patent application EP-A-1 245 743 for lack of novelty. The decision also sets out the view of the Examining Division concerning inventive step, albeit *obiter*.

II. The decision was posted by the Examining Division on 9 November 2010. The Appellant (the Applicant) filed notice of appeal on 7 January 2011, paying the appeal fee on the same day. A statement setting out the grounds of appeal was filed on 3 February 2011.

III. In accordance with Article 15(1) of the Rules of Procedure of the Boards of Appeal, the Board issued a preliminary opinion of the case together with a summons to attend oral proceedings. In response (letter dated 10 January 2013), the Appellant withdrew its request for oral proceedings and stated that it would not be attending the appointed oral proceedings. The Appellant nevertheless filed with the letter three sets of claims for consideration as its main, first and second auxiliary requests.

IV. Oral proceedings were held on 19 February 2013 in the absence of the Appellant.

V. Requests

The Appellant requested in writing that the decision under appeal be set aside and a patent be granted in accordance with the main request or one of the two

auxiliary requests submitted with the letter of 10 January 2013.

VI. Claims

(a) Claim 1 of the main request reads as follows:

"1. An assembly comprising a filter device (10) for use in a water outlet and an aeration device (30) having a central water stream restricting body creating the aeration of the water, said filter device (10) comprising:

a cylindrical housing (12, 14, 16) defining an inlet and an outlet, said inlet having a seat for receiving and maintaining said aeration device (30) relative to said cylindrical housing,

a filter element being positioned at said outlet of said cylindrical housing at a specific distance from said water stream restricting body of said aeration device,

characterised in that

said filter element comprising at least two concentric ring elements (20, 22) and a plurality of radial pin elements (26, 28) for interconnecting said at least two concentric ring elements (20, 22),

said concentric ring elements (20, 22) and said pin elements (26, 28) of said filter element being integrally moulded with said cylindrical housing from a water and lime repellent plastic material,

a major ring element (20) of said at least two concentric ring elements (20, 22) defining an aperture of a diameter somewhat smaller than the inner diameter of said cylindrical housing for the creation of a recess at the inner cylindrical housing wall of said cylindrical housing at said outlet for preventing droplets from being expelled from said outlet along said inner cylindrical wall of said cylindrical housing, and

a minor ring element (22) of said at least two concentric ring elements (20, 22) being positioned below said water stream restricting body of said aeration device (30) constituting a water stream breaker for preventing the water stream supplied from said water stream restricting body from accumulating into a non-aerated water stream."

(b) Other Claims:

Claims 2 to 7 are directed to a filter device, but have been drafted as being dependent upon claim 1.

VII. Prior Art

The following documents were cited in the search report and were taken into consideration by the Examining Division:

D1: DE-U-297 18 727
D2: EP-A-0 721 031
D3: FR-A-2 392 182
D4: FR-A-2 562 2020

VIII. Submissions of the Appellant

(a) Novelty

The Examining Division concluded that the claimed subject-matter lacked novelty with respect to D1. The Appellant submits that D1 fails to disclose ring elements, radial pin elements and a recess, as defined in claim 1.

The term "pin" indicates that the dimensions of the radial elements are small compared to those of the rings and this cannot be compared to the larger "walls" of D1.

It is the outermost ring of the assembly of D1 which corresponds to the claimed "major ring" and not one of the intermediate rings as argued by the Examining Division. As a result, the recess in D1 formed by the major ring and the housing does not correspond to that of claim 1.

The perforated plate of D1 produces many individual water jets that are combined into a homogenous water jet. None of the rings therefore function as the claimed minor ring element in acting as a water stream breaker for preventing the water from the water stream restricting body from accumulating into a non-aerated stream.

(b) Inventive Step

The Examining Division expressed its view *obiter* that the claimed assembly lacked inventive step in respect of any of the documents D2, D3 and D4.

The Appellant emphasised that the radial elements of the filters disclosed in the cited documents are walls and not pin elements, hence there is no disclosure of arrangement of interconnected ring elements as defined in claim 1.

Faced with the problem of maintaining an aerated flow of water, all of the cited documents teach that the water stream should be split into a large number of individual flows. There is no indication in the cited prior art that the accumulation of the aerated water stream into a non-aerated stream can be prevented by a minor ring element functioning as a water stream breaker.

In addition, if the complete construction were to be made by injection moulding, it would be problematic if not impossible to provide the features of D2 such as the threads and the internal connection.

Compared with the prior art, the claimed assembly solves the problem of creating an aerated water stream in a simplified way that cannot be derived in an obvious manner.

Reasons for the Decision

1. The appeal is admissible.

2. Main Request - Admissibility

2.1 Claim 1 of the main request basically corresponds to claim 1 before the Examining Division, with some minor amendments. There is therefore no objection to admitting this request into the proceedings, despite the fact that it has been filed late, ie shortly before the oral proceedings.

2.2 The Appellant had filed one copy of the main request with amendments clearly shown and a second "clean" copy. Although these copies do not correspond, it is clear that the clean copy containing needlessly duplicated phrases is in error, and that the copy showing amendments is the correct version as intended by the Appellant.

3. Article 123(2) EPC

Claim 1 of the application as originally filed is directed to a filter device, whereas that of the main request defines an assembly comprising a filter device. Disclosure of such an assembly can be found in the figures and in paragraph [0020] of the published application, which summarises the figures. The dependent claims of the main request correspond to those of the application. There is therefore no objection under Article 123(2) EPC.

4. Article 84 EPC

4.1 Whereas independent claim 1 concerns an assembly comprising a filter device, claims 2 to 7 refer to the filter device of claim 1.

Claims 2 to 7 are therefore drafted in such a way that it is not clear if they relate to an independent claim concerning a filter device, or if they define preferred embodiments of the assembly of claim 1. This gives rise to a lack of clarity contrary to Article 84 EPC.

4.2 Claim 1 defines a minor ring element in functional terms, ie it is defined as constituting a water stream breaker for preventing the aerated water stream supplied from the restricting body from accumulating into a non-aerated water stream. The question thus arises whether this definition is clear.

It is clear to the skilled person that not just any ring in a filter would be capable of carrying out the flow separation function; the minor ring element must be of a particular shape and be located in a particular position in order to achieve the required effect. For example, it would be clear to the skilled person that such a separation could be achieved by a minor ring that extends beyond the plane of the pins. The functional definition of the minor ring element is thus clear within the meaning of Article 84 EPC.

5. Novelty (Article 54 EPC)

Document D1

5.1 The Examining Division considered that the subject-matter of claim 1 lacks novelty with respect to D1, and in particular the embodiment shown in Figures 5 and 7.

D1 discloses a perforated plate through which water flows to produce a sparkling stream. The boundaries of the perforations in the embodiment shown in Figure 7 are in the form of concentric rings connected by radial walls (4). The Examining Division considered that these rings and walls (4) correspond to the ring and pin elements of claim 1.

5.2 The ring elements of claim 1 are qualified by certain functions, namely the minor ring element prevents the aerated water stream from accumulating into a non-aerated water stream, and the major ring reduces spraying by preventing water droplets from being expelled from the outlet along the inner wall of the housing. It is therefore necessary to see if an assembly as shown in Figure 5 of D1 incorporating the plate of Figure 7 would have ring elements that fulfil the above functions.

5.3 Major Ring:

The major ring element of claim 1 is defined as having an aperture of a diameter somewhat smaller than the inner diameter of the cylindrical housing for the creation of a recess, which prevents droplets from

being expelled from the outlet along the inner wall of the housing.

According to the application (end of paragraph [0011]), a recess is provided by the major ring at the junction between the inner wall of the cylindrical housing and major ring element. The "recess" is actually more of a step, which the Appellant explained is formed by the inner wall of the major ring and the inner wall of the cylindrical housing.

However, as argued by the Examining Division (point 1.4 on page 4 and point 4 on page 6 of the decision) a stepped recess is disclosed in the embodiment shown in Figure 5 of D1, where a recess is formed between the cylindrical wall of the housing and the outermost ring. This recess provides a barrier along the inner wall of the housing, and hence would have the effect of preventing droplets from being expelled from the stream, as defined in the claim. Consequently, a major ring element in the sense of claim 1 is disclosed in D1.

5.4 Minor Ring:

As mentioned above, the minor ring element of claim 1 has the function of a water stream breaker or barrier for preventing the water stream supplied from the aeration device from accumulating into a non-aerated water stream.

According to D1, air may or may not be introduced into the water before it reaches the perforated plate (page 15, lines 21 to 25), and the function of the perforated plate is to create multiple streams that

unite to form a sparkling, soft, homogenous stream (page 13, lines 1 to 5 and 28 to 32). Given that both inner and outer surfaces of the perforated plate are flat and the purpose of the plate, it is evident that none of the rings could prevent accumulation of water streams from occurring; on the contrary, it is the intention that on exiting the plate streams merge.

According to the present application, separation is achieved by the minor ring element, which protrudes like a wall to prevent the aerated streams from merging (see paragraph [0025] of the application). Since a ring having this effect is not present in the arrangement of D1, a minor ring element as defined in claim 1 is not disclosed.

5.5 Radial Pin Elements:

The Examining Division considered that a pin is a device used for fastening objects on a wall and comprises a thin elongated body with a sharpened tip at one end and a head on the other end (point 2.1 on page 5 of the contested decision). Since the expression "pin" has no clear meaning in the context of the claimed subject-matter, and in both D1 and the application the pin elements are used for the same function, ie to maintain the rings in position and provide a filter mesh of a specific size, this feature was considered to be disclosed in D1. The Appellant argues that "pin" indicates that the dimensions of the radial elements are small compared to those of the rings and cannot be compared to the "walls" of D1.

The interpretation given by the Examining Division is very narrow; the word "pin" is often used to mean any object that is slender and elongated, such as a peg, rod or dowel that is used to fix two items. It is clear that there is a difference between a "pin" and a "wall", the latter tending to indicate a larger, flat surface. Consequently, D1 does not disclose a plurality of radial pin elements for interconnecting the concentric rings.

5.6 Material for the Cylindrical Housing:

Claim 1 requires that the ring elements, the pin elements and the cylindrical housing are integrally moulded from a water and lime repellent plastic material. The Examining Division referred to page 5 as disclosing the use of a water and lime repellent plastic material. However, the teaching here is that the construction of the filter prevents lime formation, rather than the material from which the filter is made (see page 5, lines 10 to 14). This does not provide a direct and unambiguous disclosure of a filter made from a water and lime repellent plastic material.

5.7 In summary, D1 fails to disclose a minor ring element, pin elements and a filter element made from a water and lime repellent plastic material. The claimed assembly is thus novel in light of D1.

Document D2

5.8 D2 discloses an aerator in which the water flows into a water-air mixing chamber (11) and then through a water-

guide (20) which can be considered as corresponding to the filter device of claim 1.

5.9 Figure 5 of D2 shows the filter device to be made up of concentric rings, but these are connected by radial walls and not by pins as required by claim 1; this is particularly apparent from the Figures showing the filter in cross-section, as these indicate that the filter is relatively thick.

5.10 Although rings, walls and housing of the filter are integrally moulded (column 3, lines 2 to 7), there is no information concerning the material from which it is made.

5.11 Figures 15 and 16 show that the upper part of the outer ring of the filter has a step, which forms a recess immediately below the labyrinth disc (70) that is used to reduce water pressure. However, given that this recess is not situated near the outlet of the assembly, it cannot prevent droplets from being expelled from the outlet along the inner wall of the housing. Consequently, a major ring as defined in claim 1 is not derivable from D2.

5.12 The surface of the rings at the outlet of the filter lies in a flat plane, which means that none of the minor rings can act as a breaker for preventing the aerated water stream from accumulating into a non-aerated stream.

5.13 The assembly of claim 1 therefore differs from that of D2 in that there is no major ring element, minor ring element, radial pin elements, as defined in the claim,

nor are they said to be made from a water and lime repellent plastic material.

6. Inventive Step (Article 56 EPC)

6.1 Although not a reason for the decision, the Examining Division nevertheless gave its views on inventive step, concluding that the claimed subject-matter was not inventive in light of either D2, D3 or D4. The Board is thus in a position to consider this issue.

6.2 The Examining Division considered that D2 represents the closest prior art. Both D1 and D2 disclose assemblies for use in a water outlet, whereby the assemblies comprise a filter device and an aeration device. Therefore both D1 and D2 can be considered as appropriate starting points for assessing inventive step.

6.3 The differences between the assembly of claim 1 and those of D1 and D2 are identified above.

6.4 According to the application (paragraphs [0008] and [0010] of the published application), the problem addressed by the invention is the improvement in controlling the water stream, particularly at low flow rates or low water pressure levels where there is a tendency for the aerated stream to accumulate into a single non-aerated flow.

6.5 The proposed solution is provided by the minor ring in combination with the pin elements, as defined in claim 1.

6.6 Whereas the rings of D1 and D2 are held in position by radial walls, those of claim 1 are connected by pin elements. The smaller dimensions of the pins enable the minor ring to extend beyond the plane in which the pins lie and to form a wall component, which functions as a water stream breaker preventing aerated water from accumulating into non-aerated water (see paragraph [0025] of the application).

As set out above in the discussion of novelty, the arrangement of rings making up the perforated plate of D1 or the water guide of D2 could not prevent the accumulation of water streams from occurring.

The purpose of the plate of D1 or the guide of D2 is, as argued by the Appellant, to split the aerated stream into many individual flows. According to D1 (page 4, lines 26 to 32), the plate ("Lochplatte (2)") which corresponds to the filter element of claim 1 is designed to provide holes with guiding walls of a considerable length in order to form and guide individual streams of water which have been aerated before. A similar arrangement is disclosed in D2 (see column 3, lines 31 to 36). It is thus clear that the elements of D1 and D2 which correspond to the filter element defined in the claim are not designed to prevent the aerated water stream supplied from the water stream restricting body from accumulating into a non-aerated water stream.

6.7 Documents D3 and D4 (see the figures) disclose similar assemblies of filters and aerators to those of D1 and D2, hence the same conclusion is arrived at if these documents are considered.

6.8 The claimed feature of a minor ring element functioning as a water stream breaker for preventing the water stream supplied from the water stream restricting body from accumulating into a non-aerated water stream cannot be derived from the available prior art. Hence the subject-matter of claim 1 of the main request has an inventive step.

7. Further Prosecution

The case is remitted to the Examining Division for further prosecution. In particular, concerning Article 84 EPC, the reference to a filter device in the dependent claims of the main request leads to a lack of clarity (see point 4.1 above), and the description requires amendment to bring it into agreement with the claims.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Examining Division for further prosecution on the basis of the claims of the main request.

The Registrar: The Chairman:

C. Spira U. Krause