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

Case Number: T 0695/02 - 3.2.3

Application Number: 94107287.8

Publication Number: 0631020

IPC: E03C 1/084

Language of the proceedings: EN

Title of invention:
Aerator for liquids

Patentee:
AMFAG S.p.A.

Opponent:
Fa. Neoperl GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty - after amendments (yes)"
"Inventive step - after amendments (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 0695/02 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 10 March 2005

Appellant: AMFAG S.p.A.
(Proprietor of the patent) Via Austria, 3
I-46042 Castelfranco (Mantova) (IT)

Representative: Modiano, Guido, Dr.-Ing.
Dr. Modiano & Associati SpA
Via Meravigli, 16
I-20123 Milano (IT)

Respondent: Fa. Neoperl GmbH
(Opponent) Klosterrunsstr. 9 - 11
D-79279 Müllheim (DE)

Representative: Börjes-Pestalozza Heinrich
MAUCHER, BÖRJES & KOLLEGEN
Dreikönigstr. 13
D-79102 Freiburg i.Br. (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 27 May 2002
revoking European patent No. 0631020 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: U. Krause
Members: J. B. F. Kollar
K. M. Garnett

Summary of Facts and Submissions

I. The appellant (proprietor) filed an appeal against the decision of the Opposition Division to revoke the European Patent No. 0 631 020.

II. Opposition was filed against the patent as a whole and based on Article 100(a) EPC (lack of novelty and lack of inventive step) in the light of

E1: US-A-2 633 343

and an alleged prior use according to

E2: brochure "Neoperl - The magic formula for your sink", bearing the number 8703, of Dieter Wildfang KG

E3: shop drawing 0/17.0616.0 of Dieter Wildfang GmbH, carrying a last date of 16 March 1992 and the name "Duo-Brause BR BR/NP ALL",

E4: shop drawing 0/01.6110.0 of Dieter Wildfang GmbH, carrying a last date of 6 March 1997 and the name "Stahlbr AG M24-B Braun"

E5: shop drawing 0/53.3724.1 of Dieter Wildfang GmbH, carrying a last date of 7 February 1994 and the name "DUO-V-Sieb 22/24 weiss",

E6: delivery note dated 27 April 1993 for the delivery of 9000 pieces of a "V-Sieb S8 22/24", identified by the shop drawing No. 53.3724,1, by Fa. Weißer + Grieshaber GmbH to Dieter Wildfang GmbH.

III. The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of claims 1 to 5 submitted during the oral proceedings on 10 March 2005, description page 2, also submitted during the oral proceedings, page 3 as granted and figures 1 and 2 as granted.

IV. The respondent (opponent) requested that the appeal be dismissed.

V. Claim 1 of the current request reads as follows:

"1. Aerator for liquids, comprising a containment body (4), and located superimposed inside said body, from the water outlet towards the water inlet end thereof, meshes (6), a perforated plate (7), and a diaphragm (8) arranged at the end of the said body on the liquid inlet side and having at least a filtering function, characterized in that said diaphragm (8) is formed so as to have a solid wall (8a) only partially provided with liquid passage holes (8b, 8c) arranged exclusively and grouped in a selected region which is either a central region, at a median band or at sectors, so that said diaphragm (8) performs a dual function comprising both the filtering and a limiting fluid flow function."

VI. The appellant argued in written and oral submissions essentially as follows:

There has been no deletion of features from the main claim as granted but rather a narrower definition of said features by insertions having support in the application as filed so that the subject-matter of the

present claim 1 satisfies the requirements of Article 123(2) and (3) EPC.

As regards the novelty of claim 1 of the current request, the claim is distinguished from the disclosure of document E1 and the alleged prior use according to evidence E2 to E6 by the characterising features of the claim. E1 and E2 to E6 fail to teach an aerator comprising a diaphragm formed to have a solid wall provided with liquid passage holes arranged and grouped as claimed in claim 1. In particular, Fig. 3 of E1 taken alone or in combination with the text bridging columns 4 and 5, did not disclose the arrangement of the holes in a central region or at a median band small enough to satisfy the condition of limiting the fluid flow.

The subject-matter of the present claim 1 involves an inventive step. When starting from E1 as the nearest prior art, links are missing for the combination of E1 with the alleged prior use of E2 to E6, which do not relate to an aerator but to a spray and thus are not within the technical field in which the skilled person would look for solving the problem defined in paragraph 0009 of the patent specification.

VII. The respondent argued in written and oral submissions essentially as follows:

From document E1 relating to an aerator according to the preamble of claim 1, structural features of the characterising portion of claim 1 are known, namely a diaphragm which is formed so as to have a solid wall only partially provided with liquid passage holes - see

column 4, line 75 to column 5, line 3 of E1. This passage of E1 teaches that the upstream disc may be provided with a central imperforate portion in order to achieve a more even distribution of liquid to the downstream disc. It follows from this embodiment that the liquid passage holes are arranged at a median band between the outer border of the imperforate portion and the inner border of the annular rim of the disc, and that said diaphragm performs a dual function comprising both a filtering and a fluid flow limiting function (see column 6, lines 43 to 47 of E1). One of the alternatives (the arrangement of the passage holes at a median band) claimed in the characterising portion of claim 1 thus belongs to the prior art with the consequence that the subject-matter of this claim lacks novelty.

The alternative arrangement of the passage holes at the central region of the diaphragm as claimed in claim 1 is derivable from Figure 3 of E1, which shows a diaphragm provided with an imperforate annular rim and passage holes grouped in a central region, if compared to Figure 1 of E1 which shows a diaphragm with liquid passage holes arranged on the whole surface of the disc. The fact that this alternative is known likewise destroys novelty of the subject-matter of claim 1.

As to the alternative arrangement of the liquid passage holes at sectors, according to the characterising portion of claim 1, when interpreting the word "sector" as being synonymous with the word "area", reference is made to evidence E5, which discloses a spray provided with a diaphragm having liquid passage holes arranged in separated annular areas. E5 would thus suggest to a

skilled person to modify the aerator known from E1 in a way set out in the sector-alterative of claim 1 without involving an inventive activity. As to the date of availability of the documents E2 to E6 to the public, a witness was offered.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

Claim 1 differs from granted claim 1, besides having a modified two-part form, in that after the expression "in a selected region" the following features were inserted

(i) which is either a central region,

(ii) at a median band or

(iii) at sectors

The above features are supported by

(i) page 3, lines 14 to 15, claim 2 and figures 1 and 2 as originally filed and column 2, paragraph 0015, claim 2 and the figures as granted,

(ii) page 4, line 16, claim 4 as originally filed and column 2, paragraph 0021, claim 4 as granted,

(iii) page 4, line 16, claim 5 as originally filed and column 2, paragraph 0021, claim 5 as granted,

Therefore, the amendments comply with requirements of Article 123(2) and (3) EPC.

3. *Closest prior art*

3.1 The patent specification as a whole teaches that the invention relates to an improved aerator for liquids. In the prior art aerators were known which were installed at the outlet of liquid conveyance ducts and particularly of ducts conveying water to sinks, with the specific purpose of breaking the stream of fluid into parallel threads so as to make the jet that exits into the atmosphere perfectly cylindrical.

3.2 According to the introductory part of the patent specification, cf column 1, line 11 ff, prior art aerators included a body usually installed in a ring associatable with the end of the duct that conveyed the liquid and suitable to contain various elements, such as a pack of metal meshes and a perforated plate. A filter was furthermore installed at the end of the body on the liquid inlet side. The filter had the purpose of retaining the impurities present in the liquid, and had the shape of a mesh that covered the entire cross-section of the body.

3.3 In order to limit the flow-rate of the fluid conveyed by the duct at the end of which the aerator was installed, so as to save on the consumption of said liquid, in the known art it was possible to place on said filter a cap which was kept in position by means of an appropriate gasket and had a solid wall with a central hole, so that the passage section of the liquid was reduced and the intended purpose was thereby achieved.

3.4 However, the resulting configuration was disadvantageous in terms of costs and from a functional point of view since reassembly problems could occur every time the user disassembled the ring containing the aerator to clean the aerator itself.

3.5 A typical prior art aerator is the one illustrated in E1 which discloses a fluid mixing device for producing a stream of liquid containing air bubbles and which has an upstream disc functioning to prevent dirt from clogging the downstream disc and also to assure a more even distribution of liquid to the downstream disc.

The document E1 provides the basis for the prior art portion of claim 1.

4. *Novelty*

4.1 In the opinion of the Board the subject-matter of claim 1 is novel because document E1 does not disclose the characterising features of the claim.

4.2 The respondent and the Opposition Division in their decision consider that Figure 3 of E1 shows that the upstream disc comprises an upstanding annular rim 41, the inner wall of which being flush with the inner wall of the spout and perpendicular to the surface of the disc **and** an annular imperforated peripheral surface which starts from the inner wall of the upstanding annular rim and which extends up to the outermost perforations, **and** a central perforate region. In conclusion, the disc was formed so as to have a solid wall which has liquid passage holes grouped in a central region, thereby destroying novelty of the "central" alternative claimed in claim 1.

In the opinion of the respondent also, the alternative of the arrangement of liquid passage holes as a median band is not novel, since this alternative follows from column 4, line 75 to column 5, line 3 of E1, stating that the upstream disc may be provided with a central imperforate portion to provide for more even distribution of liquid to the downstream disc.

4.3 The Board cannot agree with the above novelty objections.

The appellant, referring to the figures and the disclosure of the patent specification as a whole, presented plausible reasons why a diaphragm being formed of a solid wall only partially provided with liquid passage holes arranged exclusively and grouped in a central region is not present in E1, since said central region of the patent in suit, being only partially perforated, must be smaller than the one interpreted by the respondent with regard to Figure 3

of E1 in order to enable the dual function claimed in claim 1. Moreover, the diaphragm of E1 only provides for an even distribution of fluid and does not teach the limiting flow function claimed in claim 1.

The Board also shares the appellant's opinion that a median band is generally understood to be arranged about the median line of a disc, so that the claimed alternative of the arrangement of passage holes grouped in a region which is at a median band is not anticipated by the paragraph bridging the columns 4 and 5 of E1, relating to a central imperforated portion of the diaphragm having the rest of its surface perforated.

Therefore, the subject-matter of claim 1 is novel over the disclosure of E1 and thus satisfies the requirements of Article 54 EPC.

5. *Inventive step*

5.1 Starting from E1 the objective technical problem faced by the inventor is the provision of an improved aerator for liquids which has an extremely simple structure and allows filtration of the liquid effectively before it enters the aerator itself and at the same time limits the flow-rate of the conveyed liquid.

5.2 The Board is satisfied that this problem is solved by the combination of features which distinguish the present invention from E1 and which are set out in the characterising portion of claim 1.

5.3 The respondent's main argument against the inventive step of claim 1 is based on the assertion that, since it is known to the skilled person from the prior use according to E2 to E6 to form a diaphragm so as to have a solid wall with liquid passage holes arranged in a selected region which is at annular areas - cf. especially E5 -, and taking into account that annular areas are synonymous with sectors, the combination of the teaching of the prior use according to E2 to E6 with E1 automatically leads to the sectors-alternative of claim 1.

5.4 It is, however, the Board's view that this assertion is based on hindsight in the light of the invention according to the patent and that none of references E1, E2 to E6 would prejudice, either alone or in combination with each other, the patentability of claim 1. It is, therefore, not necessary to examine the circumstances of the alleged prior use.

While the aerator of the invention is intended to be installed at the outlet of ducts conveying water to sinks with the specific purpose of breaking the stream of fluid into parallel threads so as to make the exiting jet perfectly cylindrical (see paragraph 0002 of the patent), the purpose of the diaphragm according to E4 and E5 seems to be, according to the pictures on page 2 of E2, to spread the water flow to a spray and thus to deliver a different flow. Moreover, no flow limiting effect can be derived from E2 to E6.

Moreover, contrary to the view of the respondent, the Board does not find annular areas to be synonymous with sectors, which signify angular sections of a surface, with the apex of the sectors pointing to the center part of the surface.

Since the concept of an aerator according to the subject-matter of claim 1 is not addressed by E2 to E6, their disclosure is not relevant with regard to the problem defined with respect to E1, so that the prior use according to E2 to E6 even if proven, as offered by the respondent, would neither anticipate nor render obvious the subject-matter of claim 1.

6. In view of the above, the Board concludes that the subject-matter of claim 1 is novel and involves an inventive step within the meaning of Article 52(1) EPC.

7. As claim 1 is allowable the same applies to the dependent claims 2 to 5, which are directed to preferred embodiments of the aerator according to claim 1.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents
 - claims 1 to 5 submitted during the oral proceedings,
 - description, page 2, also submitted during the oral proceedings,
description, page 3 as granted and
 - figures 1 and 2 as granted.

The Registrar:

The Chairman:

A. Counillon

U. Krause