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Veröffentlichung im Amtsblatt	Ja/Nein
Publication in the Official Journal	Yes/No
Publication au Journal Officiel	Oui/Non

Aktenzeichen / Case Number / N° du recours : T 75/89 - 3.4.1

Anmeldenummer / Filing No / N° de la demande : 85 850 235.4

Veröffentlichungs-Nr. / Publication No / N° de la publication : 0 168 369

Bezeichnung der Erfindung: A filter arrangement
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : B01D 46/04, B01D 46/06

ENTSCHEIDUNG / DECISION
vom / of / du

Anmelder / Applicant / Demandeur : Fläkt AB

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 54

Schlagwort / Keyword / Mot clé : "Novelty (No)"

Leitsatz / Headnote / Sommaire

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Case Number : T 75/89 - 3.4.1

D E C I S I O N
of the Technical Board of Appeal 3.4.1
of 30 October 1989

Appellant : Fläkt AB
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Representative : Lindblom, Erik J.
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Decision under appeal : Decision of Examining Division 031 of the European Patent Office dated 15 September 1988 refusing European patent application No. 85 850 235.4 pursuant to Article 97(1) EPC

Composition of the Board :

Chairman : E. Turrini
Members : H. Reich
C. Mancini

Summary of Facts and Submissions

I. European patent application No. 85 850 235.4 (application No. 0 168 369) was refused by decision of the Examining Division.

II. The reason given for the refusal was that the subject-matter of the independent Claim 1 filed with the Applicant's letter dated 14 April 1988 was lacking in novelty in view of the prior art document

EP-A-0 005 797 (D1),

and that the claim, therefore, was not allowable (Articles 52 and 54 EPC).

III. The Appellant lodged an appeal against the decision.

IV. Following a communication pursuant to Article 110(2) and a further one pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal, in which the Rapporteur on behalf of the Board inter alia questioned the novelty of or respectively the inventive step involved by the subject-matter of Claim 1 in the successive versions proposed by the Appellant, the latter finally withdrew an earlier request for oral proceedings and requested that a decision on the patentability of his invention be made, based upon a new set of patent documents as filed on 18 September 1989, of which the claims read as follows:

"1. A filter arrangement, incorporating means for urging a flow of medium through one or more filter assemblies, each filter assembly comprising an elongated particle-collecting element (4a), in the form of a filter hose, which co-acts with a support (5a), in the form of a wire cage, insertable

into said filter hose, and a holding device (7), holding the filter hose and the cage (5a), intended to clamp the filter hose towards one end part (5a") of the cage (5a), said holding device (7) comprising a plate or the like having formed therein a hole (15) adapted to co-act with the one end part of said cage, whereby the upper part (5a") of the cage is widened in relation to the remainder of the support (5) so that said widened portion is given a small angle, preferably between 2 and 10°, that the co-action between the end part (5a") of the support and the side (15a) of the hole (15) being effected through a wedging action, whereby a flared part of the support (5a") and said side (15a) of the hole (15) clamp the upper portion of the filter hose whereby the filter hose (4a), the cage (5a) and the hole (15) in the plate (7) are so adapted in relation to one another that the intrinsic weight of the cage (5) generates a gripping force causing the filter hose to be held firmly in relation to the plate (7) and its hole (15), and that the cage (5) is arranged to co-act with the side of the hole (15) in said plate (7) in a manner such that the uppermost edge (5c) part of the cage (5) is located at a distance from said plate (7) to form a handgrip characterized in that a clamping means (16) is operative between the filter hose (4a) and the holding device (7), that the cage (5a) is arranged to take-over automatically the function of said clamping means (16) when said means becomes ineffective, as a result of corrosion for example, that said clamping means (16) is arranged to co-act with the hose (4a) at a location beneath a collar or welt (17, 18) or at a location between two collars or welts; and in that the clamping means (16) is located in or above a plane of the plate (7).

2. A filter arrangement according to Claim 1, c h a r a c t e r i z e d in that the flared portion of

the cage (5) lacks outwardly projection portions and thus has a smooth outer surface."

V. In support of his request, the Appellant essentially submitted that the invention related to a filter arrangement comprising a wire cage secured to a hole in a plate by means of primary clamping means (16), in which additional safety was provided by a wedge effect occurring between the cage itself and the hole in case of the clamping means (16) losing its effectiveness due, for instance, to corrosion.

Such filter arrangement was neither shown nor suggested in the prior art. In particular, whilst it was admitted that the construction of document D1 also achieved a clamping action between the inner edge of the hole and the adjacent conical surface of the wire cage, and allowed the intrinsic weight of the support to generate a gripping force, this document only disclosed additional clamping means in the form of a conical ring (12) which could not be considered as a primary clamping means in the sense of present Claim 1.

Reasons for the Decision

1. The appeal is admissible.

2. Document D1 discloses a filter arrangement which incorporates all the features of the preamble of Claim 1, as was admitted by the Appellant.

This known filter arrangement indeed incorporates means for urging a flow of medium through one or more filter assemblies (Figure 1; arrows 6 and 8), each filter assembly comprising an elongated particle-collecting element (9), in

the form of a filter hose, which co-acts with a support, in the form of a wire cage (Figure 2; 15, 17, 18). The wire cage is insertable into the filter hose, and a holding device comprising a plate (11) holds the filter hose and the cage in such a way as to clamp the filter hose towards the upper end (15) of the cage, which is widened in relation to the remainder of the cage, thus forming a conus of a small angle of 5° (page 3, lines 15 to 21), which is in the preferable range of between 2 and 10° as set out in the claim. This widened portion of the cage is capable of co-acting with the edge of a hole formed in the plate (11) through a wedging action, whereby the upper portion of the filter hose is clamped between the widened portion of the cage and the inner surface of the hole (D1, page 2, lines 23-26). Since such an embodiment, which is disclosed with reference to Figure 1, is explicitly indicated on page 3, lines 23 and 24, not to require any additional fixing means such as the urging mechanism (21-25) described with reference to the embodiment of Figure 2, it is clear to an expert that in the former embodiment the filter hose, the cage and the hole in the plate are so adapted in relation to one another that the intrinsic weight of the cage by itself generates a gripping force which causes the filter hose to be held firmly in relation to the plate and its hole. Furthermore, the uppermost edge part of the cage, which forms a Venturi nozzle (10), is located at a distance from the plate and thus clearly forms a handgrip for extracting the cage from the hole in order to replace the filter hose (page 2, lines 28 to 31).

Moreover, having regard in particular to the absence of any limitation as to the specific configuration of the claimed "clamping means" also in the description of the application under appeal, the Board is further convinced that all the features actually set out in the characterising portion of Claim 1 are also known from document D1.

In particular, both embodiments shown in D1 comprise a clamping means (ring 12 with internal conus) mounted around to the upper portion of the filter hose which contacts the upper widened portion (15) of the cage, and above the hole in the plate (11). Said clamping means (12) is therefore "operative between the filter hose and the holding device". Said clamping means (12) is further "arranged to co-act with the hose at a location beneath a collar (20)" formed on the upper part of the wire cage between the Venturi nozzle (10) and the ring (12) as shown in both Figures of D1, and it is "located above a plane of the plate", in accordance with at least one of the alternatives set out in Claim 1.

Finally, it is admitted to be clear from the description of document D1 that the clamping action exerted on the upper part of the filter hose is normally provided by the inner tapered surface of the ring (12). However, in the event that the ring (12) becomes ineffective as a result of corrosion for example, there is no doubt that the cage will automatically take over the clamping function of the ring as a result of the wedging action which will then occur between the tapered upper portion of the wire cage, which is located above the hole in the plate (11), and the adjacent inner surface of the hole itself. In this respect, the Appellant's contrary view in his letter dated 14 September 1989, page 2, paragraphs 4 to 7 cannot be followed. As a matter of fact, in both embodiments shown in document D1 the ring (12) is a necessary element for clamping the filter hose against the outer surface of the upper portion of the wire cage and is therefore to be considered as a primary clamping means as well. In document D1 the means for causing a further gripping force is the locking mechanism (21-25) shown in Figure 2, (see also the description page 3, lines 23-27), but not ring (12).

Furthermore, as mentioned above, in document D1 the cage itself (in particular its flared part 15) is able to cause security by clamping known hose (9) against the hole in known holding device (11), when known clamping means (12) is losing its effectiveness.

For the above reasons, the subject-matter of Claim 1 is not considered to be novel in the sense of Article 54 EPC.

3. The remaining alternatives defined in Claim 1, according to which the clamping means is arranged to co-act with the hose at a location between two collars or welts rather than beneath a single collar, and the clamping means located in the plane of the plate do not define anything more than mere working options readily available to the skilled person. Thus, a limitation of Claim 1 to these alternatives would not have resulted in an allowable independent claim.

Moreover, the feature set out in dependent Claim 2 is also known from document D1, which clearly shows a flared upper portion of the cage lacking outwardly projecting portions and thus having a smooth outer surface, against which the upper portion of the filter hose is pressed.

For the above reasons and having regard to the Appellant's withdrawal of its request for oral proceedings, and to its request to render a decision based upon the documents presently on file, the Board can see no valid reason which justifies continuing further with the proceedings.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Beer E. Turrini