BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

A		B		C	X

File Number: T 365/90 - 3.2.1

Application No.: 84 850 265.4

Publication No.: 0 138 785

Title of invention: Liquid-dampening vibration absorber

Classification: F16F 9/00

D E C I S I O N
of 17 December 1992

Applicant: Trelleborg AB

Opponent: Boge AG

Headword:

EPC Art. 54, 56

Keyword: "Novelty (yes), inventive step (yes)"

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 365/90 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 17 December 1992

Appellant : (Opponent)
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Representative :

Respondent : (Proprietor of the patent)
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Decision under appeal :
Decision of the Opposition Division of the European Patent Office dated 13 February 1990 and posted 8 March 1990 rejecting the opposition filed against European patent No. 0 138 785 pursuant to Article 102(2) EPC.

Composition of the Board :

Chairman : F. Gumbel
Members : F.J. Pröls
F. Benussi

Summary of Facts and Submissions

I. European patent No. 0 138 785 was granted on 4 November 1987 on the basis of European patent application No. 84 850 265.4, filed on 11 September 1984.

Claim 1 of the patent reads as follows:

"A vibration absorber having an upper and a lower holder (10, 14, respectively), a dampening member (17) consisting of rubber elastic material and elastically interconnecting said holders, and two liquid-filled working chambers (24, 25) interconnected by a flow-restricting throttling device (18, 19, 32, 36), one of said working chambers having a resilient wall (20, 34), the upper holder (10) being cup-shaped and having a circumferential conical wall portion (13), and said lower holder (14) having a circumferential conical wall portion (16) which lies on the inner side of the conical wall portion (13) of the upper holder and is connected thereto by means of said dampening member (17), characterised in that said throttling device (18, 19, 32, 36) and said resilient wall (20, 34) are formed as inserts mounted in the vibration absorber on the inner side of the conical wall portion (16) of said lower holder and having their marginal portions urged and sealed against said conical wall portion (16)."

II. The patent was opposed by the Appellant requesting revocation of the patent on the grounds that its subject-matter is not novel or lacked an inventive step. The opposition was supported by the following documents:

D1: EP-A-42 911
D2: DE-A-2 923 872
D3: DE-A-2 935 879
D4: DE-C-2 736 188
D5: DE-U-1 783 017
D6: DE-B-2 227 139

III. By a decision taken at the oral proceedings of 13 February 1990 and posted in reasoned form on 8 March 1990 the Opposition Division rejected the opposition.

IV. The Appellant lodged an appeal against this decision on 28 April 1990. The appeal fee was paid and the statement setting out the grounds of appeal was filed on the same day.

V. In a communication annexed to a summons to oral proceedings, the Board observed that the Board was not convinced by the arguments presented by the Appellant that the decision under appeal needed correction.

At the oral proceedings appointed according to the subsidiary request of the Appellant and held on 17 December 1992 the Respondent was not present. His intention not to attend had already been announced in writing.

VI. The Appellant requested that the decision under appeal be set aside and that the European patent be revoked.

The Respondent requested that the appeal be dismissed and that the patent be maintained unamended.

VII. The Appellant's arguments can be summarised as follows:

Claim 1 mentions the lower holder having a circumferential conical wall portion, but does not specify the direction of the cone. Thus the disclosure of document D1 as concerns the fixation of the insert (18) within the flat conical wall portion provided on the upper end portion of the main cone (3) in essence corresponds to the teaching of Claim 1 of the patent in suit. Therefore the claimed subject-matter lacked novelty. For the rest it is not considered to be inventive if the arrangement of the insert (18) and the flat conical wall portion shown in D1 is inverted to arrive at the solution shown in the embodiment of the patent in suit. Furthermore the teaching of Claim 1 is incomplete having regard to the absence of the essential feature that a base plate and resilient means are provided for urging the inserts against the conical wall.

VIII. The Respondent in his written submissions pointed out that in the vibration absorber according to document D1, the insert (18) and the bellows (16) have to be inserted from opposite sides into the central hole (17) at the end of the conical wall. As concerns the invention these two parts are inserted from the same side and the sealing is obtained by urging the marginal portions of these two parts against the conical wall, and not by pressing them, as done in the known solution, from opposite sides into the hole (17) so as to obtain a seal due to the contact between the bellows and the border edges of the centrally positioned hole (17). Thus, the absorber according to the invention is significantly different from the construction of the known absorber. Since the concept of the invention was neither envisaged nor suggested by document D1 or by any other of the cited prior art documents, Claim 1 of the patent defines patentable subject-matter over this prior art.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rules 1(1) and 64 EPC and is admissible.

2. Article 123(2)

Claim 1 as granted contains the features of original Claim 1 completed by the feature "urged against said conical wall portion" as set out in original Claim 4 and the features concerning the positioning and the form of the upper and the lower holder of the absorber which are clearly disclosed in the drawings as filed.

Claim 2 includes the features of original Claims 2 and 8 and Claims 3 to 7 correspond to Claims 3 to 7 as filed.

Thus, the claims meet the requirements of Article 123(2) EPC.

3. Sufficiency (Article 100(b) EPC)

The functional feature in the last few lines of Claim 1 "and having their marginal portions urged and sealed against said conical wall portion (16)" defines how the inserts (throttling device and resilient wall) are held in sealed connection with the conical wall portion.

In the Board's opinion it is not necessary to define the means for urging the inserts against the conical wall portion as being resilient holding devices (see e.g. Claim 4), since any stress on the inserts would ensure a proper functioning of the absorber.

Furthermore there is no need to expressly define in Claim 1 the direction of the cone (16), since it can only,

in practice, be directed as shown in the figures of the patent in suit.

Thus, Claim 1 if interpreted in connection with the description and the drawings (Art. 69 EPC) clearly reveals at least one solution how the teaching of Claim 1 can be carried out in practice and no objection as to Article 100(b) EPC arises.

4. Novelty

4.1 The Board is of the opinion that document D1 which, in the view of the Appellants could be read onto the wording of granted Claim 1, represents the most relevant prior art and exhibits all features of the preamble of Claim 1, i.e. an upper holder comprising two joined-together parts (5, 9,) a lower holder (2, 3) a dampening member (4) consisting of rubber elastic material and elastically interconnecting said holders, and two liquid-filled working chambers (20, 219 interconnected by a flow-restricting throttling device (18, 19) one of said working chambers having a resilient wall (16), the upper holder (5, 9) being cup-shaped and having a circumferential conical wall portion and said lower holder (2, 3) having a circumferential conical wall portion (3) which lies on the inner side of the conical wall portion of the upper holder and is connected thereto by means of said dampening member (4).

4.2 Furthermore, according to D1 the throttling device (18, 19) and the resilient wall (16) are formed as inserts and mounted within the lower holder of the known vibration absorber. Thus, document D1 also mentions the first feature of the characterising part of Claim 1 of the patent in suit.

However, contrary to the patent in suit, the attachment of these inserts within the lower holder of the known dampener is carried out as follows:

The upper, narrower end of the conical wall portion (3) of the lower holder is formed with an annular radially inwardly projecting rim, the edge of which is provided with a curved bead defining an opening (17) herethrough. The open end of the bellows-like resilient wall (16) is inserted into this opening with the bellows being located within the conical wall portion of the lower holder. It is obvious from the description of D1 (page 4, lines 11-15) that the throttle device (18, 19) is press-fitted from above into the opening defined by the bead and thereby sealingly traps the edge of the resilient wall (16) against the bead.

The Appellants seek to identify in the figure of D1 what they claim to be a "second conical wall portion", i.e. that section of the annular rim between the top of the conical wall portion (3) and the bead, against which in accordance with the characterising part of the granted Claim 1 the marginal portions of the throttle device and resilient wall are urged and sealed. Since in their opinion this "second conical wall portion" could equally well be that defined in the preamble of Claim 1, this claim lacks novelty.

In accordance with the finding in the decision under appeal the Board comes to the following view.

(a) According to the wording of the preamble of Claim 1 and interpreted in the sense of Article 69 EPC the elastomeric dampening means connects the respective conical wall portions (5, 3) of the upper (5, 9) and lower (2, 3) holders. In other words the conical wall

portion against which the marginal portions of the throttle device and the resilient wall are, according to the characterising part of Claim 1, urged and sealed can only be, in the terms of the document D1, that conical wall portion (3) and not some notional "second conical wall portion" formed at the end thereof.

(b) Moreover, it is obvious from the figure of document D1 that the marginal portions of the throttle device (18, 19) and the resilient wall (16) are not in fact urged and sealed against this "second conical wall portion" but against the bead defining the opening (17) at the upper end of the lower holder. This is the only manner in which the throttle device and the resilient wall can be mounted within the lower holder as shown in the figure of D1, since the vibration absorber does not include any means which urges the throttling device (18) against the "second conical wall portion". In Claim 1 of the patent in suit, however, it is clearly defined that the marginal portions of the inserts (i.e. the throttling device and the resilient wall) are "urged and sealed against the conical wall portion". This wording in combination with the further disclosure of the patent description and the figure clearly defines that additional means are provided in the vibration absorber to urge the inserts against the conical wall portion.

4.3 The Appellant further questions the novelty of Claim 1 on the ground that it does not say whether the conical wall portions of the upper and the lower holder are arranged as shown in the figure or whether the lower holder is provided with an inverted conical wall portion having its

narrower end at the lower side as does the "second wall portion" of the lower holder according to D1.

As follows from point 4.2(b) above, even if a solution where the upper and the lower holders are arranged with the wider ends of their conical wall portions facing each other would be considered as lying within the scope of Claim 1, then the solution according to D1 (wherein the alleged "second conical wall portion" represents such an "inverted" conical wall portion) would not destroy the novelty of Claim 1 of the patent in suit. However, the Board does not consider such a solution as practicable.

Document D1 does not disclose the attachment of the inserts on the lower holder as defined in the characterising part of Claim 1 of the patent in suit.

4.4 The other documents D2 to D6 show hydraulic vibration absorbers of various forms in which a resilient wall and/or a throttling device are secured in various ways to a body of the vibration absorber. None of these documents disclose a shock absorber according to the preamble of Claim 1 and none of them disclose, in the context of the vibration absorbers to which they do relate, an arrangement whereby a throttling device and a resilient wall are sealingly mounted in the body of the vibration absorber by being urged against the inside surface of a conical wall portion.

4.5 The subject-matter of Claim 1 is therefore novel with respect to the cited prior art.

5. Inventive step

5.1 As discussed in the preamble of the description of the patent in suit the object of the invention is to provide a simplification of the construction of the vibration absorber whereby the stock-keeping costs can be minimised in that the inserts can be varied according to the desired performance, use being made at all times of a standard dampener.

This problem is clearly solved by the absorber according to Claim 1, since the invention makes it possible to combine, according to the customers' specific requirements, a standard dampener with one or more inserts, i.e. the throttling device and the resilient wall to give the construction exactly the desired performance characteristics.

5.2 In the arrangement of D1 the upper holder (5,9) is two-part. This is necessary since the throttle device (18), obviously is press-fitted from above into the end of the lower holder (2, 3) the two parts (5) and (9) of the upper holder are then secured together. The advantages of the claimed arrangement in this respect are self-evident.

Document D1 does not in itself provide any indications that could encourage the skilled man to depart from its teachings with respect to the attachment of the throttle device and the resilient wall and move towards an arrangement as defined in the characterising clause of Claim 1. Similarly, the other documents D2 to D6 cited by the Opponent do not provide any lead in this direction (see paragraph 4.4).

The construction according to document D1 would even prevent a skilled person from inverting the conical wall portion (3) as considered obvious by the Appellant, since then the throttling device (18) must be inserted from the lower side where now as before the bellows (16) are arranged (for functional reasons it is impossible also to invert the position of the bellows (16) and to transfer them into the upper working chamber (20) of the dampener). If however the throttling device (18) should be inserted from below into the bead of an inverted "second conical wall portion" at the end of the cone (3) then the bellows (16) which in D1 are fixed between the throttling device (18) and the bead (17) would make this insertion very difficult if not impossible.

5.3 For these reasons the Board is satisfied that the vibration absorber according to Claim 1 and hence also that claimed in the remaining Claims 2 to 7 which are all appendant thereto is not only novel but also involves an inventive step within the meaning of Article 56 EPC.

6. It is noted that Claim 1 does not define in its precharacterising part all the features of its subject-matter which are known from the closest prior art document D1 as required by Rule 29(1) EPC (see point 4.2, paragraph 1 above). In the present case this deficiency cannot be removed because of the fact that it does not constitute a ground of opposition requiring the patent to be amended. There is, therefore, also no possibility to amend the description in order to comply with Rule 27 EPC.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: **The Chairman:**

S. Fabiani F. Gumbel

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