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D E C I S I O N
of 22 June 1994

Case Number: T 0782/92 - 3.2.1

Application Number: 86307924.0

Publication Number: 0219341

IPC: F16F 15/12, F16H 55/42

Language of the proceedings: EN

Title of invention:
Dual-type damper device

Patentee:
Tokai Rubber Industries, Ltd., et al

Opponent:
Firma Carl Freudenberg
Metzeler Gimetall AG

Headword:
-

Relevant legal norms:
EPC Art. 54(2), 56

Keyword:
"Public prior use (no) - insufficient evidence"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

Case Number: T 0782/92 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 22 June 1994

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Decision under appeal: Interlocutory Decision of the Opposition Division
of the European Patent Office announced at oral
proceedings on 3 June 1992, with written reasons

posted on 7 July 1992, concerning maintenance of
European patent No. 0219341 in amended form.

Composition of the Board:

Chairman: A. F. Gumbel
Members: P. Alting van Geusau
B. Schachenmann

Summary of Facts and Submissions

- I. The mention of grant of European patent No. 0 219 341, based on patent application No. 86 307 924.0, was published on 25 July 1990.
- II. In notices of opposition filed on 11 April 1991 by the other party (Opponent 01) and on 23 April 1991 by the Appellant (Opponent 02) revocation of the patent was requested for the reason of non-compliance with the provisions of Article 100(a) EPC.

In respect of an alleged lack of novelty and inventive step of the subject matter of the patent the oppositions were **inter alia** supported by the documents:

- D1: DE-A-1 166 552
- D2: DE-A-3 007 238
- D4: JP-U-58 70554
- D5: US-A-2 484 241

and an alleged prior use for which the following evidence was submitted:

- A1: Drawing 2318 006/102/2, dated 11 March 1970
- A2: Delivery note 097798 concerning 5 pieces of dampers delivered on 30 January 1978 to Daimler Benz AG, Stuttgart, Germany
- A3: Order Nr. 197254312 dated 2 February 1978
- A4: Dispatch note related to evidence A3
- A5: Drawing 2318 037/018/1 dated 15 May 1985

A6: Delivery note 056909 concerning 15 dampers delivered on 28 August 1985 to Daimler Benz AG, Stuttgart, Germany

III. By decision announced at oral proceedings of 3 June 1992, with written reasons posted on 7 July 1992, the Opposition Division upheld the patent in amended form.

Claim 1 of the amended patent reads:

"A dual-type damper device (10) for damping vibration of a rotation axle (8) comprising: a damper hub (12) including a boss portion joined to said rotation axle (8), a cylindrical portion (16) located radially outwardly of said boss portion (14) and a connection portion (18) connecting said boss portion and said cylindrical portion (16), a first damper-mass member (22) disposed radially outwardly of said cylindrical portion (16) of said damper hub (12), such that said first damper-mass member (22) is spaced apart from, and concentric with, said cylindrical portion (16); a first resilient member (24) interposed between said cylindrical portion (16) of said damper hub (12) and said first damper-mass member (22); characterised in that: a second damper-mass member (26) having a cylindrical shape is disposed concentrically in an inner space of said cylindrical portion (16) of said damper hub (12) with free spaces radially inside and radially outside said second damper-mass member (26) along the whole axial length thereof thereby permitting its radial displacement relative to said connection portion (18) of the hub (12); and a second resilient

member (28) is disposed between one of axial ends of said second damper-mass member (26) and a corresponding part of said connection portion (18) of said damper hub (12) which is opposed to said one axial end of said second damper-mass member (26), so as to secure said second damper-mass member (26) to said connection portion (18), said second resilient member (28) being spaced so as to permit relative radial displacement of the second damper-mass member (26) and the connection portion (18) of the hub (12) and being subjected to shear deformation due to relative radial displacement".

The Opposition Division held that in particular the structural feature according to which free spaces are provided radially outside the second damper-mass member along the whole axial length thereof thereby permitting its radial displacement relative to the connection portion of the hub, was not derivable from the cited prior art including the vibration damping arrangements shown in D2, A1 and A5.

- IV. An appeal was lodged against this decision on 22 August 1992 with payment of the appeal fee on the same day. The Appellant requested setting aside of the impugned decision and revocation of the patent.

The Statement of Grounds of Appeal was filed on 17 November 1992.

- V. In response to the Statement of Grounds of Appeal the Respondent submitted the following requests:

Main request:

Maintenance of the patent in the form in which it was allowed by the Opposition Division but with the deletion of the first paragraph of the typed page which is to be an insert in column 2, line 55 of the printed patent specification,

First auxiliary request:

maintenance of the patent in amended form in which it was allowed by the opposition Division but with the amendment that the first paragraph of the insertion for column 2, line 55 should read:

"In drawing No. 2318037018/1 dated 15/05/85 of Carl Freudenberg there is illustrated a damper device which was delivered to Daimler-Benz. This drawing is to be found in the file of the present patent at the European Patent office."

Second auxiliary request

maintenance of the patent in amended form in which it was allowed by the Opposition Division.

- VI. In a communication dated 30 June 1993 the Board expressed the provisional opinion that neither the cited prior art documents nor the alleged prior use (documents A1 to A6), disclosed or appeared to give a lead to a cylindrical second damper mass supported at one end to and positioned in an inner space of a cylindrical portion of the damper hub. Claim 1 as maintained by the Opposition Division therefore appeared to comprise inventive subject-matter.

Furthermore, having regard to the arguments put forward by the Respondent in his letter dated 5 April 1993 the Board supported the view that it did not appear to be sufficiently proven that a dual-type damper as shown in the document A5 was publicly available in the sense of Article 54(2) EPC.

VII. The Appellant's arguments in support of his request can be summarised as follows:

The Opposition Division cannot be followed in that the damping arrangements disclosed in D2, A1 and A5 are not suitable for damping bending vibrations.

In the introduction to the description of D2 it is explicitly stated that both bending and torsional vibrations are dampened. Considering the second damper-mass 4 the drawing shows that there is a free space on the outside of this damper-mass. On the inside the opening between the damper-mass and the hub is partially filled with rubber material, but clearly this is a direct consequence of entirely filling up the space at the back of the damper-mass which, as is also shown in the damper arrangement of the patent, causes some overflow of rubber material. However, to be able to dampen bending vibrations as indicated there must necessarily be achieved, taking account of the rubber composition, a radial displacement of the damper-mass which is clearly possible with this known damper-weight arrangement.

It is true that the damper-mass 4 in D2 is shorter than the damper-mass shown in the patent in suit but also Claim 1 lacks any clear definition of the relative size of the damper-mass. Since the radial displacement of the damper-mass is an essential prerequisite for damping bending vibrations, the arrangement disclosed in D2 is substantially the same as the arrangement claimed in the amended Claim 1, and thus the subject matter of Claim 1 lacks an inventive activity.

As regards the prior use in accordance with the damper shown in the drawing A5, public access to this prior use is plausible for the reason that it is customary in the automobile industry that parts and the drawings related thereto developed by one supplier are used as a basis for obtaining price offers for these parts by other suppliers. The delivery note A6 does not indicate any secrecy settlement so that such customary practice is likely to have been followed.

VIII. In support of his request the Respondent relied essentially on the following submissions:

As regards the second alleged prior use, for which evidence in the form of documents A5 and A6 was submitted by the Appellant in the opposition proceedings, this evidence does not imply that the supply of 15 dampers (see delivery note A6) was of the ordinary commercial type, passing the relevant knowledge freely to the recipient of the articles. In this respect the absence of any evidence of secrecy in the documents cannot be taken as proof that no such

agreement or other confidentiality existed and thus the discussion of this alleged prior use in the amended description should be deleted.

As regards the question of inventive step of the subject-matter of the amended patent the Appellant's opinion with respect to the disclosure of D2 cannot be followed. The presence of the rubber part radially between the weight 4 and the hub in the arrangement in accordance with D2 prevents any significant radial displacement of the weight 4. There is no reason why the skilled person would select the rubber material in this area such that radial displacement becomes possible because there are no instructions in D2 that the weight 4 shall be radially displaceable for the purpose of damping bending vibrations. The vague statement in D2 on page 1, lines 16 to 21 about the damping of bending vibrations is not associated with the absorption of bending vibrations by the weight 4. Rather, also damper-weight 4 deals with the absorption of rotational vibrations but vibrations of different frequencies as those absorbed by damper-weight 3.

From a technical viewpoint, since the weight 4 must absorb rotational vibration, the rubber 6 must have a particular hardness or elasticity to achieve this effect. However such a particular hardness is not suitable to allow significant radial displacement, sufficient to absorb bending vibrations. Thus document D2 cannot give the skilled person a lead to the subject matter of Claim 1 of the amended patent.

IX. The other party (Opponent 01) requested with letter dated 11 August 1993 that the Opposition Division's decision should be fully upheld in respect of the amendments of the description of the patent.

Reasons for the decision

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

2. *Amendments*

2.1 The current Claim 1 is based on the granted Claim 1, which comprises essentially the same subject matter as the originally filed Claim 1 supplemented by the insertion of the feature that the cylindrical second damper-mass member is disposed in the inner space of the damper hub with free spaces radially inside and radially outside the second damper-mass member along the whole axial length thereof thereby permitting its radial displacement relative to the connection portion of the hub. This additional feature is clearly shown in Figures 1, 7 to 9 and 14. The free vibration of the second damper-mass in the radial direction is also disclosed on page 18 lines 22 to 29 of the originally filed description.

The dependent Claims 2 to 13 are essentially repetitions of the originally filed and granted Claims 2 to 13, respectively.

In view of these assessments no objections under Article 123(2) or (3) EPC arise against the current Claims.

- 2.2 The description in the form as upheld by the Opposition Division is based on the granted description but additionally comprises a discussion of the alleged prior use shown in the evidence A5 and the prior art disclosed in D2.

Throughout the Opposition Proceedings the Respondent contested the public availability of the alleged prior use based on the evidence A5 and in the present appeal proceedings requested (main-request) that the discussion of the alleged prior use be deleted. In the Respondent's opinion no sufficient proof was submitted that this prior use was publicly available and therefore the alleged prior use could not be regarded as prior art in the sense of Article 54(2) EPC.

In respect of evidential support of the free availability of the damper shown in the drawing in accordance with A5 only the delivery note A6 from which can be derived that 15 dampers were delivered to Daimler Benz AG in Stuttgart, Germany, was presented by the Appellant.

However, no details are available about the conditions of the transaction, in particular whether this constituted a normal delivery of dampers for use in the production of vehicles or rather concerned a small batch of dampers intended for experimental or test

purposes. In view of the relatively small number of dampers involved the latter appears to be the case.

In the Board's opinion such condition does not qualify for free availability of the knowledge provided by the evidence A5 since usually in the stage of development of a product cooperating parties observe rules of confidentiality which restrict the free transfer of knowledge to the public. In this context the Board also supports the Respondent's view that the absence of any evidence of secrecy in A6 cannot be taken as evidence that no confidentiality existed at all.

In an attempt to establish free availability of the damper shown in A5 the Appellant submitted that it is quite common in motor car industry to give details of parts developed by one supplier to another in order to obtain alternative price offers for these parts. Since the delivery note A6 did not contain any secrecy obligation it was considered "highly likely" that such practice had been followed in respect of the damper shown in A5.

In the Board's opinion these submissions are not suitable as proof of free availability of the damper shown in the drawing A5 either, in particular since any evidence that such a practice was indeed followed in the present case in which only 15 dampers were delivered, is lacking.

Moreover, the Appellant's argument in fact amounts to a further alleged prior use according to which not only

the supplier of the damper shown in the drawing A5 (Carl Freudenberg) and receiving party (Daimler Benz AG) were in the possession of the technical details of the damper but also other, unknown suppliers. However, no evidence has been provided in support of such a further prior use.

Summarising, in the Board's opinion, substantial doubt has arisen in the present case whether the alleged prior use based on the evidence A5 and A6 was indeed publicly available before the priority date of the present patent. Considering that the burden of proof is with the Opponent, in particular to demonstrate beyond any reasonable doubt that the circumstances of alleged prior use allow the conclusion that the information concerned was freely available to the public and in the absence of unequivocal proof in this respect, the damper shown in A5 cannot be considered to belong to the prior art in accordance with Article 54(2) EPC and should, therefore, not be indicated as such in the description of the patent in suit.

3. *Novelty*

3.1 Novelty of the subject-matter of Claim 1 can be concluded because none of the cited prior art documents to be considered discloses a second damper-mass having a cylindrical shape, which is disposed concentrically in an inner space of the cylindrical portion of a damper hub along the whole length thereof and which is attached at one side to the hub by a resilient member

being shaped to allow radial displacement of the second damper-mass relative to the hub.

- 3.2 The Appellant considered that the damper-mass 4 in the Figure of D2 constituted a second damper-mass essentially in accordance with the definition of the damper-mass of Claim 1 of the patent in suit.

However, the damper-mass 4 disclosed in D2 is not of cylindrical shape within the meaning of this term as used in the patent in suit but rather a ring shaped disk or plate. This ring is further not disposed in an inner space of a cylindrical portion of the damper hub and no indications are derivable from D2 that the damper-mass 4 is intended for damping bending vibrations.

Of course, because of its flexible connection with the hub the damper-mass 4 can also move in the radial direction but, due to the large area of support, clearly the amount of radial movement is limited to such an extent that the skilled person would not consider such a construction to be comparable to or anticipating a construction in which a member of cylindrical shape, this term as used in the patent clearly implying an axial length exceeding the axial extent of a ring shaped disk, is connected with one of its ends to the hub.

Although D2 refers in its introductory part of the description to damping of torsional and bending vibrations the disclosure remains entirely silent as to

which damper-mass of the embodiment shown in the drawing is intended to dampen the bending vibrations and/or torsional vibrations. The problem to be solved by the damper arrangement of D2 relates essentially to the integration of the compensating mass and vibration damper-mass in order to reduce costs and volume of the damper (see page 2, lines 3 to 10).

However, in view of the fact that damper-mass 3 is longer in the axial direction of the damper it appears that rather this damper-mass, and not the damper-mass 4 relied upon by the Appellant, is intended to dampen bending vibrations.

4. *Inventive step*

- 4.1 The closest prior art in respect of the subject-matter of Claim 1 of the amended patent is considered to be the dual-type damper referred to in the description of the patent in column 2, lines 16 to 39. This conventional dual-type damper corresponds with the dual-type damper acknowledged in the precharacterising portion of Claim 1 of the amended patent.

This known dual-type damper, although capable of damping complicated vibration, is said not to be effective against vibration including both torsional and bending vibrations. It is therefore the object of the invention according to the patent to provide a dual-type damper which is capable of damping both torsional and bending vibration of a rotation axle, so as to reduce vibration and noise and nevertheless being

of simple and compact construction (see column 2, lines 56 to 65 and column 3, line 60 to column 4, line 11 of the patent specification).

4.2 In the dual-type damper in accordance with Claim 1 of the amended patent, the first damper-mass member serves as a first vibration system for damping torsional vibration of the rotation axle and the second damper-mass member serves as a second secondary vibration system for damping bending vibration of the rotation axle.

4.3 The only prior art document cited that mentions damping of both torsional and bending vibrations is D2. However, as was already indicated hereabove, no details are disclosed as to which of the two damper-mass members is intended for damping bending vibration. Moreover, the construction of this known damper is substantially different when compared to the damper device defined in Claim 1 of the amended patent. In particular neither of the known damper-masses has a cylindrical shape within the meaning of the patent in suit nor is any of the damper-masses arranged inside of a cylindrical portion of the damper hub with free spaces radially inside and outside along the whole length thereof nor is any of the known damper-masses connected at one of the axial ends thereof only.

There are also no suggestions derivable from D2 to reconsider the shape and position of the damper-masses

so as to arrive at the shape and position of the second damper-mass claimed in Claim 1 of the amended patent. The fact that D2 essentially deals with the provision of a compensating mass 7 in a combined construction with vibration damper-masses puts the configuration and position of damper-masses 3 and 4 also at subordinate level of importance in this prior art document.

- 4.4 The Appellant considered that the damper-mass 4 shown in the Figure disclosed in D2 in addition to damping torsional vibration would also dampen bending vibration because the sideward support of the mass 4 allowing radial movement of this mass. This damper mass would therefore meet the requirements as set out in Claim 1 of the amended patent.

Although indeed some damping of bending vibration will occur due to the damper-mass 4, it is immediately clear to the skilled person that in comparison to the arrangement of the second damper-mass defined in Claim 1 of the amended patent such damping is negligible if compared to the amount of radial movement achievable by the arrangement including a cylindrical second mass with free spaces on both radial sides as defined in Claim 1. Also in view of the different damping effects of the ring like damper-mass 4 when compared to the cylindrical damper-mass of the present patent, the Appellant's argument that the known mass 4 must be considered to be a cylindrical mass comparable to the second damper-mass defined in Claim 1, is not considered convincing.

- 4.5 The other documents, including the alleged prior use in accordance with documents A1 to A4, do not disclose more than what is already known from D2 and since the Appellant did not any longer rely on these documents and prior use the Board sees no reason to discuss these citations in detail.
- 4.6 The Board therefore comes to the conclusion that the subject-matter of Claim 1 in the form as upheld by the Opposition Division cannot be derived in an obvious manner from the cited prior art and accordingly involves an inventive step (Article 56 EPC). This Claim, together with dependent Claims 2 to 13 relating to particular embodiments of the invention in accordance with Rule 29(3) EPC, can thus form the basis for maintenance of the patent (Article 52(1) EPC).
5. In view of the conclusions arrived at in point 2.2 above the first paragraph of the insert in column 2, line 5 of the description must be deleted because no proof was given that the damper arrangement shown in the drawing A5 belongs to the prior art in accordance with Article 54(2) EPC and hence the contested paragraph is not in agreement with the provisions of Rule 27(1)(b) EPC.
6. Thus taking into account the amendments according to the main request, the patent and the invention to which it relates meet the requirements of the EPC and the patent as amended may be maintained in the form as requested in the Respondent's main request (Article 102(3) EPC).

Since the main request is allowable there is no need to consider the Respondent's auxiliary requests.

Order

For these reasons it is decided that:

1. The contested decision is set aside.
2. The case is remitted to the first instance with the order to maintain the patent in the form as upheld by the Opposition Division but with the deletion of the first paragraph of the insert in column 2, line 55 of the patent specification.

The Registrar:

The Chairman:

S. Fabiani

F. Gumbel